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ABSTRACT

The report contains information on the educational system of Sweden, primarily to assist U.S. institutions in the placement and credit transfer of Swedish students. An introductory chapter provides background information on the country, its population, its government, Nordic cooperation, and an overview of the educational system. Chapter 2 outlines the preschool, elementary, and lower secondary systems. Chapter 3, devoted to the secondary education system, describes the overall program, grading, school leaving qualifications, and the design of the two-year and three-year curricula in different academic and vocational disciplines. Chapter 4 details the higher education system, with some historical information and descriptions of financing, admission, college entrance examinations, academic year, degree program types, professional and graduate study, student records, and changes in credentials awarded since a reform movement in 1993. Content and organization of different disciplines' programs are specified in Chapter 5, and teacher education is the focus of Chapter 6. Separate chapters address forms of nontraditional education, international programs and study abroad, and guidelines for U.S. admissions officers concerning evaluation of credentials and student placement. Appended materials include institution profiles, a list of Swedish agencies, notes on the National Council on the Evaluation of Foreign Educational Credentials, and a Swedish-English glossary. Contents are indexed. (MSE)

PIER World Education Series

ED 399 872

Sweden

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REPORT
1995

American
Association of
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PIER World Education Series

Sweden

A Study of the Educational System of Sweden and Guide to the Academic Placement of Students in Educational Institutions in the United States

Country
Report
1995

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Urbana-Champaign

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NAFSA: Association of International Educators is a nonprofit membership association that provides training, information, and other educational services to professionals in the field of international educational exchange. Its 6,500 members, from the United States and more than 50 countries, make it the largest professional membership association concerned with the advancement of effective international educational exchange in the world.

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Preface

This volume in the World Education Series (WES) is a full country study of the structure and content of the educational system of Sweden, together with a formal set of placement recommendations based upon the research of the authors. The placement recommendations have been reviewed and officially approved by the National Council on the Evaluation of Foreign Educational Credentials. Each WES volume is published in accordance with standards of independent academic research and does not seek to advance any domestic or international political aim.

The World Education Series is published by PIER (Projects for International Education Research), a committee of appointed representatives from the American Association of Collegiate Registrars and Admissions Officers (AACRAO), NAFSA: Association of International Educators, and The College Board. PIER was formed in 1990 with the merger of two long-standing committees: the World Education Series Committee of AACRAO and the PIER Committee of AACRAO and NAFSA. The members of the PIER Committee during the research and development of this volume are listed on the opposite page.

PIER is charged with research and dissemination of information on educational systems throughout the world, for use in the admission and placement of students and scholars in educational institutions in the United States. In addition to publishing reports on these systems, PIER develops workshops and seminars on international credentials evaluation.

Four types of publications make up the World Education Series: full country studies, workshop reports, special reports, and working papers. The PIER Committee oversees the selection of topics, authors, and reviewers. Among the topics covered are levels of education, institutions, admission and program requirements, grading systems, credentials awarded, and study abroad programs. Placement recommendations, when included, are approved by the National Council on the Evaluation of Foreign Educational Credentials. For more information concerning the National Council and its members, see page 166. Information and an order form for currently available PIER volumes can be found on the last two pages of this book.

William H. Smart, Chair

Acknowledgments

The opportunity to visit Sweden in the spring of 1993 to undertake the research for this PIER volume on the educational system of the country was a challenging and exciting one. No U.S. publication had been prepared on Swedish education for over 20 years. Sweden was in the midst of a radical change in educational policies and procedures; we had much to absorb.

Everywhere we went, from Stockholm to Luleå, to Lund and Göteborg, to Uppsala, Karlstad, Sundsvall, and Växjö, university and college administrators spent untold hours sharing their knowledge with us and patiently explaining their programs, their educational philosophy, their goals, and most dearly their country. People made great efforts to explain how the system had been and how it would be under the new legislation.

We are most grateful to the Swedish Ministry of Education and Science that provided the funding for the project through the National Agency for Higher Education. We are, of course, particularly appreciative of the support of Marianne Hildebrand, Deputy Director of the agency's International Department and Head of NARIC, and that of her staff, who were charged with looking after us. Marianne is a wonderful friend who did all she could to make our trip and the preparation of our manuscript a success. Ragnar Sjögren deserves particular thanks for his care in making the detailed arrangements for our visit and for his patient replies to many follow-up questions after we returned home. We also wish to thank Mari-Anne Roslund of the Swedish Institute for her assistance in obtaining materials and making available to us the TRACE information on Sweden.

Linda Callihan of the NAFSA office was very helpful in handling the details of the funding. The PIER Committee supplied us with a laptop computer and printer, which were a bit ornery at times, but invaluable if heavy traveling companions. Our thanks to Taylor Gregg of The Braintree Group who undertook the professional editing of the manuscript and learned a great deal about the PIER process while doing so. Henrianne Wakefield of the AACRAO staff also contributed to the final production of this manuscript. Anne-Marie Andreasson, a graduate student at the University of Illinois at Urbana-Champaign, was a great help with Swedish translations. We thank her and the many other Swedes and Americans who contributed to the work. We hold only ourselves responsible for any errors.

We shared a great experience. We hope we have produced a useful volume that will assist in the continued movement of students and scholars between our two countries.

Kathleen T. Zanotti *Karlene N. Dickey* *May 1994*

Kathleen T. Zanotti, formerly with the University of Illinois, Urbana-Champaign as Program and Administrative Coordinator, Study Abroad Office: Assistant to Director for International Admissions, and Academic Advisor, College of Liberal Arts and Sciences, is completing a Master's degree in Statistics and Measurement in the Department of Educational Psychology, University of Illinois. Participated in PIER project in Yugoslavia.

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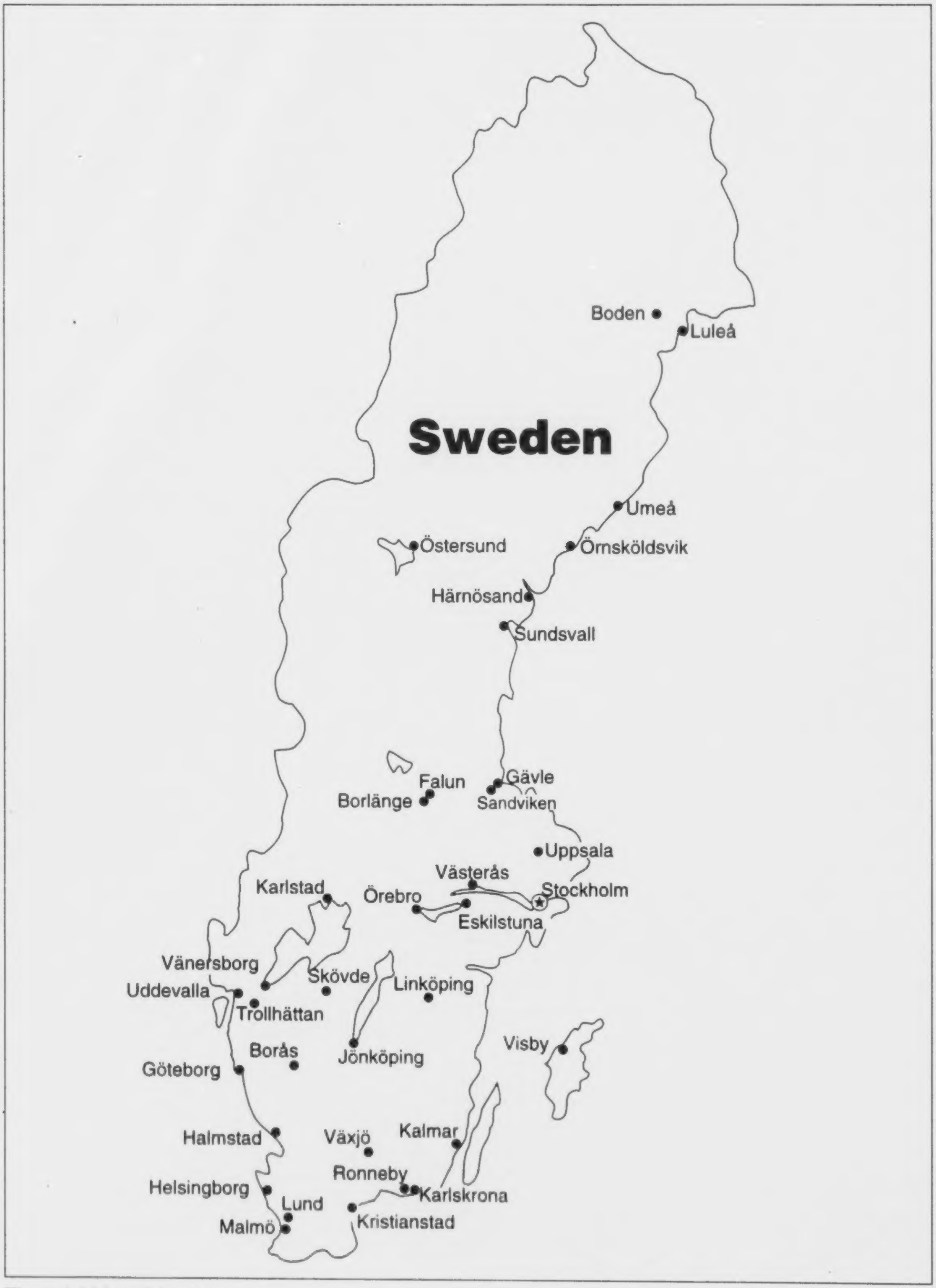
Sweden
Boden
Luleå
Umeå
Östersund
Örnsköldsvik
Härnösand
Sundsvall
Falun
Gävle
Borlänge
Sandviken
Uppsala
Västerås
Karlstad
Örebro
Stockholm
Eskilstuna
Vänersborg
Skövde
Uddevalla
Linköping
Trollhättan
Visby
Borås
Jönköping
Göteborg
Halmstad
Växjö
Kalmar
Ronneby
Helsingborg
Karlskrona
Lund
Malmö
Kristianstad

Figure 1.1 Map of Sweden

Chapter 1

Introduction

Sweden and Its People

Sweden, one of the Scandinavian countries, measures 174,000 square miles, approximately the size of California. It is strategically located between the Atlantic Ocean and Baltic Sea. The coastline is long and there are many off-shore islands. Half of the area is forested, only 8% farmland. The country is rich in natural supplies of wood, waterpower, iron ore, uranium, and other minerals. Stockholm is the capital; other major cities include Göteborg, Malmö, and Uppsala. Eighty-five percent of the population of 8.7 million live in the southern half of the country. Two of the oldest minority groups are the Finnish-speaking people of the northeast and the Sami (Lapp). The official language is Swedish. The Church of Sweden, of Lutheran denomination, is the official State church, with about 90% of the population as members.

The early history of the country is intermixed with that of Norway and Denmark. Over many centuries there were shifting national boundaries and intermittent wars between various groups in this geographical area. In the seventeenth century, Sweden became a great naval power and twice defeated Denmark, incorporating some territory from both Norway and Denmark. In 1721, Sweden was defeated and lost most of its far-flung provinces. As a result, Sweden was reduced to approximately its present-day frontiers, with the exception that it still included what is now Finland. When the Finnish territory was surrendered in the Napoleonic wars, Sweden assumed its present size. From 1814 to 1905 Sweden held Norway in a union. Since 1814, Sweden has not been involved in any war and pursues a foreign policy of nonalignment in peacetime and neutrality in wartime.

Government

Sweden is a constitutional monarchy with a parliamentary government. The present King is Carl XVI Gustaf, whose role is principally ceremonial. The Parliament (*Riksdag*) consists of just one house with members directly elected by proportional representation for 3-year terms. There are 13 ministries within the government. The 24 counties are divided into 286 municipal districts.

Sweden is a social welfare state, with all residents covered by health insurance. Tax-free allowances are provided for each child until the sixteenth birthday. Study allowances are provided for students; at the university level, the largest portion of these are repayable loans. Everyone over 65 receives a state pension.

Nordic Cooperation

Sweden actively participates in the Nordic Council in cooperation with Denmark, Finland, Iceland, and Norway. The Council, with representatives from each of the five countries, was established in 1947 and serves as an advisory body to the Nordic parliaments and governments. It deals with economic, legislative, social, and cultural questions of cooperation between the Nordic countries, including education, environmental protection, and communications. In 1971 a Nordic Council of Ministers was formed, among whose aims are obtaining better results through pooling resources, by adjusting the division of labor, and seeking to reach similar positions on the work of international organizations.

Nordic cooperation was remarkably successful in the legislative area. The laws of the five countries affecting marriage, parentage, business, copyright, transportation and maritime law, etc., have been almost completely harmonized. Nordic citizens can travel through all the Nordic countries without a passport. The NORDPLUS study and teacher exchange program, for example, works to create cooperative agreements aiding academic mobility among the five countries. Since the establishment of the Nordic Council, continuous efforts have been made to make it easier for citizens to work and study freely anywhere in the Nordic countries. The first coordinated regulations for the validity of Nordic periods of study date

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back to the mid-1950s. The present agreement was ratified in 1975 and covers both work and student exchange.

An Overview of Swedish Education

Modern day education in Sweden can be seen as having three phases: the "build-up" period (1950-1977), consolidation and operation (1977-1993), and transformation and renewal (1993-present). The Swedish educational system has traditionally been under firm government control. A national curriculum, planned in cooperation with the universities, allowed local variations and an education oriented towards the occupational needs of a growing public sector. Funding and the number of study places were allocated by the government based on estimates of future labor market demand.

From 1950 to 1977, emphasis was on strengthening the system of higher education. Many new universities and regional colleges were founded and university research activities were extended. The total number of tertiary institutions increased dramatically to meet the burgeoning demand; enrollment numbers increased tenfold over the period.

Creating a Comprehensive System

From 1977 to 1993, the emphasis was on creating a comprehensive higher education system. Many former professional colleges and some special secondary school programs were included in the integration process and merged with other institutions. The goal of the policy was to establish a single comprehensive system made up of the seven universities and the 30-plus university-level institutes and university colleges. The policy also stated that research would be conducted within the universities and the university institutes of medicine and technology, but not stressed in the university colleges. Research resources were provided by the government to the first group, but only in small extent to the colleges. Academic programs continued to be developed and approved by the government. Emphasis throughout the educational system was on vocational/professional training with the goal of training for employment. In order to control the number of admissions to tertiary education, the *numerus clausus* was extended to all programs in higher education in 1979. At the end of the 1980s, there began a period of increasing unemployment and weakened national economy, resulting in much criticism of the tightly government controlled educational policy. These factors led to the creation of a new policy for education, which was approved in 1993.

Recent Changes

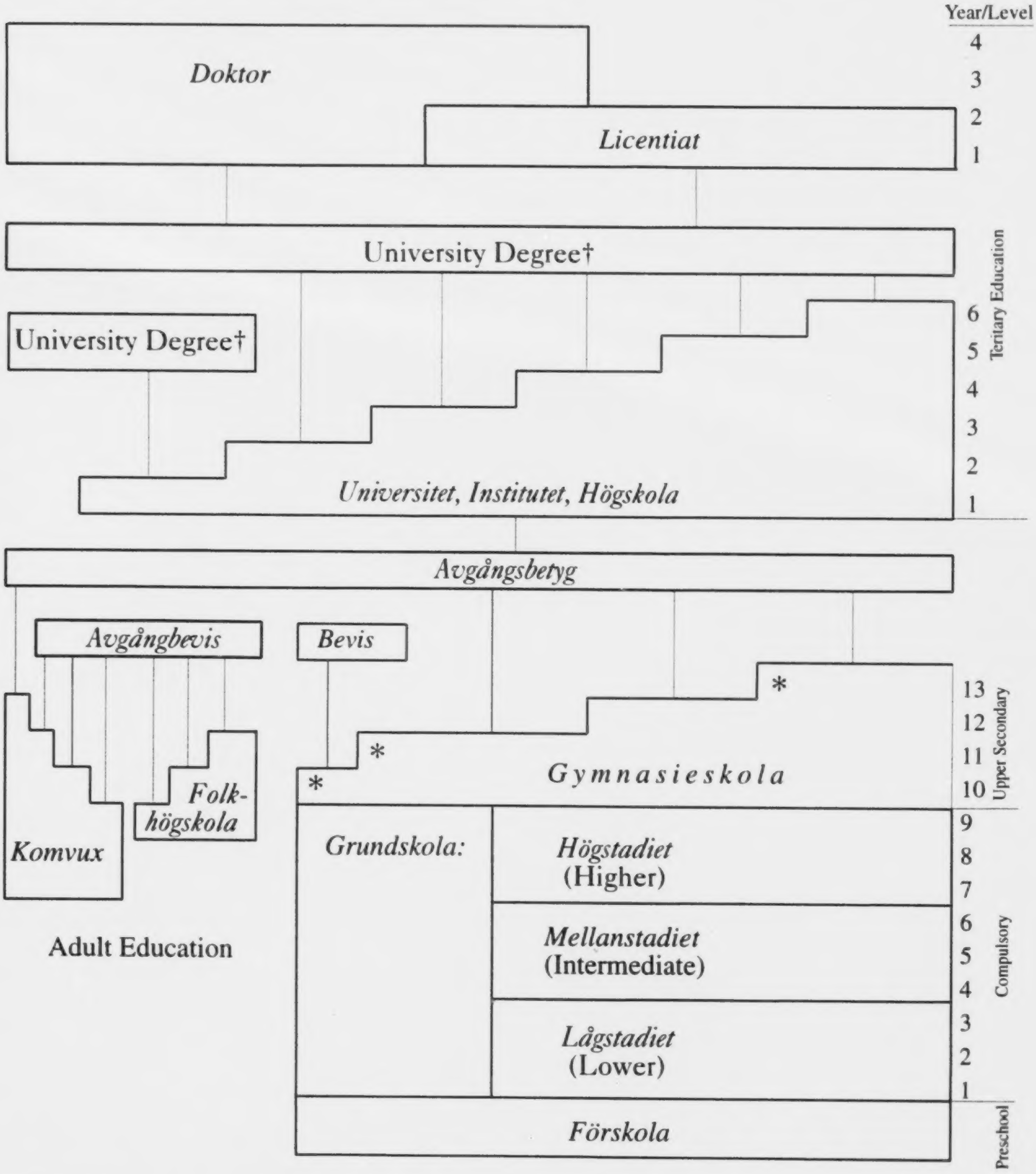
Over the period from 1991 to 1995, a further dramatic increase has occurred in the number of students in higher education (from 188,700 to some 250,000 undergraduates). This is partly due to high unemployment and partly to increased emphasis on formal academic training. Close to 50% of the age cohort enters tertiary education annually, increasing the stress on the educational system to meet the demand for places.

From 1993 on, the new government policy has been one of encouragement of individual choice, flexibility, and quality. The government has supported limited decentralization, giving educational sectors more autonomy and in a few cases permitting institutions to become private foundations. The hope is that this independence in decision-making (number of students admitted, type of program, choice of funding base) will lead to stronger educational systems, with each institution proving its own worth. Institutions are accountable to the government for the success of their innovations. The Office of the Chancellor has been created to protect the standards of the degrees offered and has the power to recommend new degrees or withdraw the right of institutions to issue certain degrees. The goal is to increase the number of degrees from longer study programs from 14,000 to 25,000 annually. They hope to produce 2,000 new doctorates annually by the year 2000, with special priority given to technological fields. The government has also set the goal that all university-level teachers have a doctoral degree as well as a basic pedagogical education.

Although the new government policy is to strengthen undergraduate education, that effort has not received as much financial support as has research. Considerable funds, 10 billion Swedish *kronor* over the next 15 years, have been targeted strictly for research. The new funds have been given to three independent foundations: one for strategic research in technology, natural sciences, and medicine; one for strategic environmental research, including transport systems; and one for the humanities and social sciences. The funds are to be used on major efforts in areas where Swedish researchers and research groups have special prospects to reach a world class level. Projects must be of major size, include training of young researchers, and promote international cooperation.

The changes mandated under the 1993 educational laws affect the whole educational system from primary school through doctoral studies (see Figure 1.2). The next few years are expected to be a period of great transition as the institutions

Structure of the Swedish Educational System


Year/Level
Doktor
Licentiat
4
3
2
1
University Degree†
University Degree†
Universitet, Institutet, Högskola
6
5
4
3
2
1
Tertiary Education
Avgångsbetyg
Avgångbevis
Bevis
*
*
*
Gymnasieskola
13
12
11
10
Upper Secondary
Folk-högskola
Komvux
Adult Education
Grundskola:
Högstadiet (Higher)
Mellanstadiet (Intermediate)
Lågstadiet (Lower)
9
8
7
6
5
4
3
2
1
Compulsory
Förskola
Preschool

† Variety of degrees offered (see Appendix C)

* Not available since the reform of 1993; only 3-year program is offered.

Figure 1.2 Structure of the Swedish Educational System

gradually become accustomed to new freedoms and utilize their own creative resources. The Ministry of Education and Science will still approve degree qualifications as a whole and the degree titles that can be awarded. A restructuring of the names of degrees is already in place. Differences among degree programs and among upper secondary school programs, however, can be expected to further increase as the institutions and the students plan their own programs, and the educational system becomes much more diversified.

Chapter 2

Preschool, Primary, and Lower Secondary Education

Preschool

About 40% of children aged 1 through 5 or 6 attend preschool (*förskola*) provided by municipalities. These are daycare centers for children whose parents are gainfully employed or studying. Full-time and part-time groups are available for children aged 4 to 6. Municipalities are required to provide places for all 6-year-olds in a preschool program or school.

Primary and Lower Secondary Education

The goals of compulsory school (grades 1-9) (*grundskola*) are threefold: to provide equal access and opportunity for all students, regardless of the social and economic level of the children's families; to develop basic knowledge and skills for future learning and/or employment (but not vocational training); and to help students become responsible members of society. Every pupil leaving compulsory school is required to have:

1- listening and reading mastery of Swedish and the ability to express ideas in the written and spoken language,
2- mastery of fundamental mathematical thinking,
3- knowledge and understanding of fundamental concepts and contexts within natural sciences, technical, social, and humanistic knowledge areas,
4- ability to communicate in verbal and written English,
5- insight concerning core elements of Swedish and Western cultural heritage,
6- the ability for expression in artistic and other creative forms, and knowledge of the media and its role,
7- knowledge of the foundations of social laws and rules as well as individual rights and obligations in school and society,
8- knowledge of international cooperation and global connections, as well as the conditions for obtaining a good environment,
9- knowledge about good health, and
10- in-depth knowledge of some chosen subject areas.

Children are required to attend school for 9 years or until they are 16. They enter primary school at age 7, but since 1992 a child may start school at age 6 if the parents wish. During the period of compulsory education, students attend a *grundskola*, which is divided into three sections: lower or junior level, grades 1-3 (*lågstadiet*); intermediate level, grades 4-6 (*mellanstadiet*); and higher or senior level, grades 7-9 (*högstadiet*) (see Figure 1.2). Schools for lower and intermediate levels exist throughout the country, often in a combined neighborhood school. Schools for the higher level do not offer all lines of study, such as the academically oriented lines. In some municipalities schools do not even exist and students need to commute to complete compulsory school. Classes at the lower level are kept to a maximum of 25 students, at the intermediate and higher levels a maximum of 30 students. For the first 6 grades, students usually have one teacher, but beginning with grade 7 are taught by subject teachers.

The school year lasts 40 weeks and is divided into 2 terms. School starts in late August and concludes in early June. Class periods are 40 minutes in duration. Until 1991 the curriculum was set by the National Board of Education (*Skolöverstyrelsen*). The Board set the goals for the curriculum and general guidelines. Teachers were given a complete syllabus of topics to be covered in each subject, the number of classes devoted to each topic, and the time frame in which to present it. All children were taught the same courses with methodology and materials consistent throughout the country.

National Agency for Education

Since 1991 curriculum guidelines have been provided by the National Agency for Education (*Skolverket*), which has superseded the National Board of Education. This agency provides national goals and guidelines for education and develops the basic framework for curricula. Under the new guidelines schools have more independence in developing the specifics of the programs, but must carry out the specified goals and provide the same development opportunities to all children. The children, however, no longer receive an identical education.

Table 2.1 Compulsory School Course List (1993, with number of 40-minute periods per week)

Subjects	Lower Level Grades 1-3	Inter-mediate Level Grades 4-6	Higher Level Grades 7-9
Art Education		6	5
Child Studies			1
English	2	10	9*
Gen. Subj.**	18	21	32
Handicraft	2	9	5
Home Econ.		1	4
Mathematics	13	15	12*
Music	4	5	2
Opt. Subj.†			11
Sport	6	9	9
Swedish	29	26	12
Total‡‡	74	102	102

* May be taken at the general or advanced level.

** General subjects for grades 1-3 include art education and handicraft; for grades 4-6, social subjects (15) and science subjects (6); for grades 7-9, social subjects such as religion, history, social science, and geography (17) and science subjects such as physics, chemistry, and biology (15).

† Optional subjects include foreign language.

‡‡ The lower level contained 20, 24, and 30 periods per week; the intermediate level 34 periods per week; the higher level 33, 33, and 34 periods per week in grades 7, 8, and 9.

English is a required subject beginning in grade 3 or 4. At the higher level, German or French can be studied in addition to English. Higher level students may also choose between general or special (more advanced) courses in mathematics and languages. All students are taught child studies, computer science, home economics, technology, textile work, woodwork, and metal work, and complete a total of 16 weeks of work experience. They visit and work at various places of employment to gain a knowledge of different fields, working environments, and occupations. Immigrant students (approximately 10% of all compulsory school pupils) are entitled to be taught in their native language. In 1993 instruction was provided in more than 60 different languages. In addition, these children are also given extra instruction in Swedish as a second language.

The Swedish government has recently introduced legislation setting new curricular guidelines for compulsory school, Lapp (*Sami*) school, special school, and compulsory school for the handicapped. These guidelines will form the basis of new curricula, new time schedules, and syllabi to be adopted by Parliament for all compulsory schooling. (See Table 2.1 for the standard course list for compulsory school.)

Grading

(The National Council on the Evaluation of Foreign Educational Credentials did not review or approve U.S. equivalents for grades given in the Swedish system, but the below are suggested by the authors.) Pupils do not receive marks in grades 1-7, but teachers meet with parents twice a year to report progress. In grades 8 and 9, students receive the following marks (the authors' suggested U.S. equivalents are noted in parentheses): 5 = Highest [U.S. equivalent is (A)], 4 = Above Average (B), 3 = Average (C), 2 = Below Average (D), and 1 = Lowest (F).

The national achievement test (*standard prov*) is given to students in the spring. The range of scores is 5 through 1 (highest to lowest). A score of 3 represents the average achievement for a particular subject for all students in the country. Teachers use the national tests as a guide for grading individual students against the national norm rather than solely on the class norm. This grading system will be replaced with a goal and achievement-related system presented in the same legislation as the new curriculum. The new system will be geared to special achievement criteria that will be devised in conjunction with the syllabi. The goal is to make clear to pupil and teacher alike which achievements are required for the award of a certain mark.

The leaving certificate from compulsory school (*Avgångsbetyg*) lists the final marks in all courses. Completion of compulsory school qualifies pupils to continue into upper secondary school. However, pupils must apply to specific lines and are admitted based on their compulsory school marks. Nearly 90% of the pupils continue their studies at the upper secondary school level.

Chapter 3
Upper Secondary Education

The Program

The upper secondary school (*gymnasieskola*) program in Sweden has its origins in two traditions, both dating to the Middle Ages. Vocational education originated from the guild and apprenticeship system. Academic education originated from the church and classics schools that provided education primarily for the needs of the church, while the secondary grammar schools that came later provided education of a more general nature. Over recent decades, the academic and vocational education traditions have been merged into a single system.

This dual system of education is offered in an upper secondary school (*gymnasieskola*) for students aged 16 to 19. Prior to 1970 there were separate institutions at this level: academic gymnasium (*gymnasium*), commercial gymnasium (*handelsgymnasium*), technical school (*tekniskt läroverk*), continuation school (*fackskola*), and vocational school (*yrkesskola*). Under the 1970 reform, these schools were merged into an integrated upper secondary school whose goal was to provide a common base for all pupils, irrespective of the particular line chosen. It was intended to be a foundation for both vocational life and higher education studies.

To achieve the integrated educational goal, the *gymnasieskola* between 1970 and 1993 offered almost 30 study lines (*linje*) including academic, vocational, and technical lines. Some 500 specialized courses were also offered. The study lines varied in duration from 2 to 4 years. In 1991 a new law was passed that made all upper secondary school lines 3-year programs as of the fall of 1992 (see Figure 1.2). Full implementation of this change will be completed in 1995.

Study lines had very detailed curricula laid down by Parliament. All study lines require a minimum of 160 hours in Swedish, 160 hours in physical education, 80 hours in working life orientation, and 40 hours of "reserve" periods. These reserve periods are intended for special activities such as educational and vocational orientation, industrial and social affairs, cultural questions, etc. Study lines for the period 1970 to 1993 are listed in Tables 3.1 to 3.5. Admission to upper secondary school is competitive and based on marks received when leaving the 9-year compulsory school. In 1993 about 87% of the applicants were accepted in their first preference of study line.

Grading

Before 1969 all students were required to pass a set of national achievement tests (*studentexamen*) before receiving a leaving certificate. The certificate was required by the universities for admission. From 1969, continuous assessment in grading replaced the *studentexamen*. Most subjects are graded on a 5 to 1 scale, with 5 the highest. In a few subjects, students receive only the notation *deltagit* (participated). Subjects not graded are indicated on the leaving certificate. In addition to the 5-point scale, a "†" mark can be entered to show that the student did not receive a mark, due either to prolonged absence, neglect, or handicap. The "†" indicates that sufficient knowledge and proficiency in the subject were not attained. The National Council on the Evaluation of Foreign Educational Credentials did not review and has not approved U.S. equivalents for the Swedish system, but the following is suggested by the authors:

Grading Scale: Upper Secondary School

Swedish Mark		Suggested U.S. Equivalent
5	Highest	A
4	Above Average	B
3	Average	C
2	Below Average	D
1	Lowest	F

In some key subjects, the percentage given for each grade is based on the standard achievement test (*central prov*), a national set of exams given to all upper secondary school students. The scores are normally distributed, with "5" representing 7% of

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the scores, "4" (24%), "3" (38%), "2" (24%), and "1" (7%). The class/group score from the national test in a subject is used as a base in determining the final level of grades. Teachers add grade performance on other written tests and class observations to this base to determine the final grade. In 1993 the cumulative grade point average ranged from 2.6 to 3.7. Mean scores in the theoretical lines ranged from 3.12 to 3.78. In 1994 grading was replaced by a goal and achievement-related system.

A new grading scale has been approved for students who began upper secondary by autumn 1994, and is already in use in *Komvux* programs. The new grades are:

Mycket Väl Godkänd (MVG): Pass with High Distinction or Pass with Special Distinction

Väl Godkänd (VG): Pass with Distinction

Godkänd (G): Pass

Icke Godkänd: Fail (will not appear on transcripts)

Leaving Certificate

On completion of upper secondary school, a leaving certificate (*Avgångsbetyg*) is awarded. Graduates receive the same leaving certificate for completing the 2-, 3-, or 4-year programs under the old law or under the July 1992 reform that requires all programs to be 3 years in length (see Document 3.1). This certificate is issued in English upon request. Each certificate shows the line or program followed, the required and optional courses taken, the year in that the course was taken, and the grade received. The certificate also indicates whether a student followed normal studies (*fullständig studiekurs*), reduced studies (*mindre studiekurs*) in order to concentrate in an area, or extra subjects or courses (*utökad studiekurs*). Students completing the normal studies or extra subjects are considered qualified to continue in higher education. Students who have reduced their studies must complete the missing courses in order to qualify for general admission. However, all graduates must also meet specific entrance requirements set by the tertiary institutions for particular programs.

Study Lines from 1970 to 1993

There were two lengths of study lines offered in upper secondary school. Vocational training were 2-year lines, preparing primarily for employment or for further education in mainly specialized courses at upper secondary school. Three- and 4-year lines emphasized academic training and often included vocational/technical training. Completion of these lines allowed for employment, further specialized training in upper secondary school, or general admission to tertiary level study. Graduates normally met the specific requirements for admission to most tertiary education programs.

The 2-year lines were chosen by 65% of the students. Graduates of the 2-year program met the general admission requirements for university but needed additional courses to meet the special admission requirements for a specific program. Those who chose a 3- or 4-year line were either preparing for university studies or wished to complete a longer program that was partially vocational, e.g., business or technology. The usual preparation for university studies in most fields was from the 3-year lines in social sciences, business, humanities, and natural sciences, or completion of the third year of the 4-year technology line.

Three- and Four-Year Lines

The variations between these lines can be summarized as follows: the natural sciences and technology lines had identical courses in mathematics, physics, and chemistry. Students in the natural sciences line took more modern languages. Technology line students could take biology only as an extra subject. The natural sciences and social sciences lines included practically the same subjects, but natural sciences students took more mathematics. In the natural sciences line, physics, chemistry, and biology were each taught as separate subjects, while in social sciences they were taught together under the subject of general science at a less advanced level. Social sciences students took more modern languages and social subjects. In addition to the courses, all students in these lines had to undertake a special project, either individually or in groups. The subject area and title appeared on the leaving certificate, but no marks were awarded for this work.

Business (*Ekonomisk*): The business line was translated into English as "economics" but the scope of the line was general business. It provided basic training for employment in business or administration and a foundation for further studies in many fields. The first 2 years consisted of foundation courses. The third year was divided into four branches: business and languages (basic economic subject and heavy emphasis on language); administrative (organization and activities of national and local government administration, organization and methods of social policy, and the accounting systems employed by national and local authorities); distribution (marketing principles, market analysis, purchasing organization, cost benefit analysis, and questions concerning export and import); and accounting (management accounting, balance sheet theory and company taxation, and financial planning).

During the 3-year line, instruction in foreign languages occupied a large proportion of the studies. Business economics classes in the first 2 years were intended to equip the students with the basic knowledge that was required of every employee in the clerical and commercial sector or the administrative sector. Students studied work within the various functions of an enterprise, such as purchasing, marketing, finance, and administration. During year 3, law studies provided a knowledge of those sectors of civil law, the law of procedure, and criminal law that were relevant to business practice. The 3-year line provided basic training for employment in enterprise and administration. It also provided a good foundation for further studies in several fields (see Table 3.1 for a standard course list).

Humanities (*Humanistisk*): The humanities line provided a general education with particular emphasis on languages. Year 1 was a common core with social sciences, and in years 2 and 3, students could continue the standard line or select a semi-classical branch (concentrating in Latin), a classical branch (concentrating in Latin and Greek), an arts (aesthetics) branch, or a social branch. Students who selected classical variations reduced the three modern language periods and took six periods each in Latin and Greek in year 3 and no social sciences. Those who opted for the semi-classical line took seven periods of Latin in year 2 and six in year 3. They did not take general language studies or general sciences in year 2 (see Table 3.2 for a standard course list).

Natural Sciences (*Naturvetenskaplig*): The natural sciences line provided a broad general education and special eligibility for the majority of postsecondary programs, and was considered the most demanding of the 3-year lines offered. All students followed the same course, which concentrated on mathematics; students learned a number of essential concepts and methods in algebra, geometry, functions, and the theory of probability and statistics; physics (year 1 instruction was in mechanics, a foundation for the next 2 years; year 2 concentrated on electricity; and year 3 on the general theory of wave motion, electromagnetic waves, and atomic physics); chemistry (atomic structure, chemical bonding, organic and inorganic substances and rocks and minerals, and industrial applications of chemical methods); and biology (general instruction, with special attention to biological phenomena of importance to man, health, survival, and human society; a general survey of the principal groups of the plant and animal kingdoms, as well as genetics, was given in year 2; and in year 3, instruction included evolution, cellular and general physiology, biochemistry, ecology, and ecology) (see Table 3.4 for a standard course list).

Social Sciences (*Samhällsvetenskaplig*): The social sciences line provided a general education and a foundation for employment in many different fields as well as special eligibility for several educational programs at universities and colleges. Year 1 was a common core with humanities; in years 2 and 3, students could continue the standard curriculum or choose an art or social variant. Primary instruction emphasized social sciences (study of social life in geographical, economic, political, and sociological terms; population; industry and business, and socioeconomic problems; systems of government, democracy, and dictatorship; and social planning and current social issues) or mathematics (two choices: one with a social scientific and economic bias, with emphasis on statistics and practical statistical exercises; the other, with a scientific and technical bias, the identical course taken in the 3-year natural sciences line and the 4-year technology line); students became familiar with essential concepts and methods in mathematics and general sciences (see Table 3.3 for a standard course list).

Technology (*Teknisk*): The 3-year technology line provided a basic technical vocational education. Students seeking a tertiary level engineering degree could apply at the end of the third year for admission to postsecondary engineering programs at the universities and institutes of technology. The first 2 years of the course were common to all branches. In year 3, there were four branches: mechanical, civil, electro-, and chemical engineering. In year 4, the civil branch was subdivided into construction and building and the electro-engineering branch subdivided into electro-power and telecommunications. Job experience was compulsory and included instruction in the school workshop, followed by field practice after year 2. Field practice involved paid probationary employment at workplaces for 6 weeks during the summer after year 2, and 6 weeks after year 3 if the student was to continue into year 4. The fourth year was optional and intended for professional training (see Table 3.5 for standard course list). Students who completed the 4-year technology line were referred to as "certified upper secondary school engineer (*gymnasieingenjör*)."

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Table 3.1 Upper Secondary School Business (*Ekonomisk*) Course List (1992, with number of 40-minute periods per week)

Subject	Year 1	Year 2	Year 3
B-Language*	3	3	
Business Economics	2	8	
C-Language*	4	3	
Social Sciences	3	3	2.5
English	3	2	
General Sciences	3		
History	2	2	
Law**			2
Mathematics†	5	3	
Physical Education	3	3	1
Psychology			2
Religion			2
Reserve Period	1	1	1.5
Specialized Subjects††			16
Swedish	3	3	3
Typing	2	1	
Total	34	32	30

* B-Language (continued studies of language taken during 3 years of compulsory school) included either German or French. C-Language (started at upper secondary school) included one of the following: German, French, Russian, Spanish, Italian, Portuguese, or Finnish (not all were offered at every school).

** In business and languages branch, Secretarial Work could be substituted for the third-year Law course.

† Or Shorthand during the second year.

†† Specialized subjects included in business and languages branch: English (4), B-Language (4), C-Language (4), Typing (1), and Shorthand (3). In administrative branch: Foreign Language (3), Mathematics (3), Business Economics (3), and Administration (7). In distribution branch: one Foreign Language (3), Mathematics (3), Business Economics (3), and Distribution (7). In accounting branch: one Foreign Language (3), Mathematics (3), and Business.

Table 3.2 Upper Secondary School Humanities (*Humanistisk*) Course List (1992, with number of 40-minute periods per week)

Subject	Year 1	Year 2	Year 3
B-Language/C-Language*	3/4	3	3
C-Language*	4	3	3
Social Sciences	3	2.5	6
English	3	3	3
General Language		3	
General Sciences	4	4	
History		5	4.5
History of Art and Music		2	
Mathematics	5		

(continued next page)

Table 3.2 -*Continued*

Subject	Year 1	Year 2	Year 3
Music or Drawing **	2		
Philosophy			2
Physical Education	2	2.5	3
Psychology			2
Religion			3
Reserve Period	1	1	1
Swedish	3	3	3.5
Total	30/31	32	34

* B-Language (continued studies of language taken during 3 years of compulsory school) included either German or French. C-Language (started at upper secondary school) included one of the following: German, French, Russian, Spanish, Italian, Portuguese, or Finnish.

**No marks were awarded, only the notation *deltagit* (participated).

Table 3.3 Upper Secondary School Social Sciences (*Samhällsvetenskaplig*) Course List (1992, with number of 40-minute periods per week)

Subject	Year 1	Year 2	Year 3
B-Language*	3/4	3	3
C-Language*	4/0	3/0	
Social Sciences	3	2.5	6
English	3	3	3
General Sciences	4	4	
History		5	4.5
History of Art and Music**		2	
Mathematics	5	3	3
Music or Drawing	2		
Philosophy			2
Physical Education	2	2.5	3
Psychology			2
Religion			3
Reserve Period	1	1	1
Swedish	3	3	3.5
Total	30/31	32	34

* B-Language (continued studies of language taken during 3 years of compulsory school) included either German or French. A B-Language could be substituted for a C-Language, in which case it was studied for 4 periods per week. C-Language (started at upper secondary school) included one of the following: German, French, Russian, Spanish, Italian, Portuguese, or Finnish (not all were offered at every school).

** No marks were awarded, only the notation *deltagit* (participated)

Table 3.4 Upper Secondary School Natural Sciences (*Naturvetenskaplig*) Course List (1992, with number of 40-minute periods per week)

Subject	Year 1	Year 2	Year 3
Alternative Subjects*		2/0	6/0
B-Language/C-Language**	3/4	3	3/0
Biology		2	3
Chemistry	3.5	5	
Social Sciences	2	2.5	
English	3	3	3
History			6/4
History of Art and Music†		0/2	
Mathematics	6	5	4
Music or Drawing	2		
Philosophy			2/0
Physical Education	2	2.5	3
Physics	3.5	4	3
Psychology			2/0
Religion			2
Reserve Period	1	1	1
Swedish	3	3	3
Total	29/30	33	34

Note: Some variations were permitted, which accounts for the different number of lessons for some subjects.

* Alternative subjects: Computer Sciences, Energy and Measurement Technique, Health Sciencess and Environmental Studies.

** B-Language (continued studies of language taken during 3 years of compulsory school) included either German or French. A B-Language could be substituted for a C-Language, in which case it was studied for 4 periods per week. C-Language (started at upper secondary school) included one of the following: German, French, Russian, Spanish, Italian, Portuguese, or Finnish (not all were offered at every school).

† No marks were awarded, only the notation *deltagit* (participated).

Table 3.5 Upper Secondary School 3- to 4-Year Technology (*Teknisk*) Course List (1992, with number of 40-minute periods per week)

Subject	Year 1	Year 2	Year 3	Year 4
B-Language/C-Language*	3/4	3		
Biology		2/0		
Business Economics				4/2
Chemistry	3.5	3.5		
Social Sciences		0/2	3	
English	3	3		
Ergonomics				3/2
History			4	
Mathematics	6	5.5	4	

(continued next page)

Table 3.5 -*Continued*

Subject	Year 1	Year 2	Year 3	Year 4
Physical Education	2	2.5	2.5	
Physics	3.5	4	3	
Religion			2	
Reserve Period	1	1	1	
Swedish	3	3	2.5	
Technical Subjects			12	28/31
Technology	5	4.5		
Total	30/31	32	34	35

Note: Each of the branches had different specialized technical instruction in years 3 and 4.

* B-Language (continued studies of language taken during 3 years of compulsory school) included either German or French. A B-Language could be substituted for a C-Language, in which case it was studied for 4 periods per week. C-Language (started at upper secondary school) included one of the following: German, French, Russian, Spanish, Italian, Portuguese, or Finnish (not all were offered at every school).

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Two-Year Lines

Agriculture (*Jordbrukslinje*): The goal of the agricultural line was to equip students with the general knowledge and skills required for various duties in agriculture. There was one common 2-year course for all students. Studies included animal production, 640 hours (basic knowledge and skills concerning milk and milking, livestock anatomy and physiology, feeding and care of different livestock species, livestock breeding, and agricultural buildings); plant cultivation, 600 hours (agricultural biology, soil treatment, fertilization, cultivation, care, and storage); agricultural machinery and maintenance of buildings, 720 hours (machinery and tools, tractors, agricultural implements, power saws, electrical equipment, and the maintenance of buildings); agricultural economics, 320 hours (environmental conservation, consumer education, financial planning in the farming enterprise, and various types of production, bookkeeping, and tax returns). Instruction was divided between theoretical and practical. Students worked in livestock pens, machinery garages, practice driving areas, and practice fields. After 1 to 2 years of work experience, graduates could enroll in special courses in animal production (20 weeks) or farm management (40 weeks), or various 8- to 20-week specialized courses, e.g., agricultural machinery, agricultural economics, and pig breeding.

Building and Construction (*Bygg- och Anläggningsteknisklinje*): The goal of the building and construction line was to confer knowledge and skills for work in the building and construction sector. The line had a number of branches: concrete, building joiners, brick layers, streets, roads, and conduits, mining and metallurgy, heating and plumbing fitters, painters, building plates, and floor layers. Some of these branches had a common first course, others (the last four listed) received specialized vocational training from the beginning. Graduates from certain branches could apply for admission to an upper secondary advanced course in road engineering and construction.

Year 1- Work techniques were taught in school workshops. Instruction was given about the various materials, tools, machines, and measuring instruments belonging to the specific trade. Students learned to read and interpret drawings, tables, and charts; to study working instructions; and to practice systematically following the same, as well as how to implement safety and security regulations.

Year 2- Some instruction was carried out in external workplaces. In all branches, building and construction techniques constituted between two-thirds and three-quarters of the curriculum. Graduates usually entered into a period of apprenticeship in a particular industry.

Business (*Ekonomisklinje*): The business line was translated into English as "economics" but the scope of the program was general business. It gave students general knowledge and provided basic economic education with a view to employment in enterprise and in public and private administration. Business subjects included business economics, typing and office skills, and shorthand. The curriculum and the average number of hours per week taken during the 2 years included: busi-

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ness economics (8.5), social sciences (3), English (3.5), mathematics or shorthand (4), music or drawing (2), office skills (3.5), physical education (2.5), religion (2), reserve period (1), Swedish (4), typing and office skills (3.5), optional subjects such as second foreign language, music, drawing, handicraft, drama, psychology, consumer education (3).

Clothing Manufacturing (*Beklädnadsteknisklinje*): The goal of the clothing manufacturing line was to teach students the basic skills involved in the manual and industrial production of clothing.

Year 1- Students learned basic techniques of pressing, cutting, and sewing by hand and machine. Instruction also dealt with various clothing materials, material production methods, properties and handling of material, pattern design, draftsmanship, and the history of costume.

Year 2- Advanced instruction in pattern design, cutting, and manufacturing was given. In both years students made a number of garments. In the 2 years of study, 59 to 65 hours of the total of 76 hours was devoted to aspects of clothing manufacturing, 8 hours to the required subjects, and 6 hours to optional subjects. Graduates could be employed as tailors, dressmakers, or manufacturers of clothing as well as fitters, product designers, clothing manufacturing technicians, and teachers in the trade. They were also qualified to take the upper secondary school advanced specialization course for ladies' or gentlemen's tailors.

Consumer (*Konsumtionslinje*): The goal of the consumer line was to equip all students with a basic knowledge of such subject fields as family and consumer affairs.

Year 1- A common course was provided for all students, with slight modification for those interested in the restaurant and catering branch. Instruction was offered in family affairs, consumer education, housing and environment education, textile studies, health and hygiene, economics, child studies, and dietetics, as well as required courses for all upper secondary students in Swedish, working life orientation, physical education, and the "reserve" period. Students in the restaurant and catering branch spent more time studying dietetics, health, and hygiene but less on textile studies and none on child studies.

Year 2- Study was divided into three branches: home economics (dietetics, housing and environment education, consumer education, family affairs, child studies, nursing and care, psychology, and sociology); consumer education with textile specialty (elements of sewing garments and domestic textiles, methods of preparing different types of textile material, assessment of quality, weaving including set-up of looms, calculating material inputs, determining qualities, patterns, and colors and cost estimates, including decorative needlework, furniture and interior design, color and design exercises using various materials, and the history of arts and crafts); restaurant and catering (instruction concentrated on food production including cooking, balanced diet, handling of foodstuffs, and processing machinery and utensils in the catering trade, study of food legislation, keeping and storage of foodstuffs, composition of menus, serving and dispensing of precooked food, and time and cost estimates).

Distribution and Clerical (*Distributions- och Kontorslinje*): The goal of the distribution and clerical line was to concentrate on business economics (acquisition of the basic knowledge that every employee in clerical and commercial or administrative sectors should have, the study of the way businesses are organized, and work, accounting, and bookkeeping routines, review of different methods of marketing goods and services, and practice in elementary mathematical calculations in problem fields concerning business economics); typing; distribution skills (purchasing routines, warehousing, marketing of goods and services, wholesale and retail sales, shop design, goods display and transport, practical aspects of printing, display, advertisement design, etc.); and office skills (general office functions and use of calculating aids, goods distribution, procurement of banking services, travel agencies, and insurance companies).

Year 1- Common course for all students included Swedish, business economics, typing, distribution skills, office skills, and consumer and goods education.

Year 2 - There were two branches: distribution and clerical. The clerical branch was subdivided into two streams, machine calculating and typewriting. Graduates of the clerical branch were prepared to work in offices in industry, banking, insurance, trade, travel agencies, municipal and national administration, government enterprises, etc. Graduates of the distribution branch were prepared for employment in retail and wholesale trade, and in service enterprises.

Electro-telecommunications (*El-teleteknisklinje*): This line conferred basic knowledge and skills for employment in electro-telecommunications field.

Year 1- Common to all, studies included instruction in working with different materials, machines, and measuring instruments; the making of parts; installation of simple telecommunications equipment and tracing faults in apparatus and lines; control techniques; use of charts, drawings, and tables; and implementation of safety and security regulations.

Year 2- Five branches existed in these fields:

A. Electrician: work techniques were taught largely through practice assignments in a school workshop. Electrical installation practice included fitting cables to wood, concrete, and brick and connecting various types of electrical consumer apparatus. Two months (400 hours) of environmental practice with firms in the trade were recommended. Graduates could apply to upper secondary advanced specialization courses in industrial electrical engineering, process automation, and sawmill technology. After 2 years of experience, they could qualify as electrical installation engineers.

B. Telecommunications maintenance: instruction provided a grounding in general electronics largely concerned with connections and circuits. Graduates could apply for advanced specialization courses in automation techniques, electronic communications, and processing automation.

C. Steering and automatic regulation: installation, repair, and maintenance of instruments for the automatic control of machinery in processing and engineering plants. Instruction dealt largely with apparatus, connections, circuits used in control and regulating techniques and electronics, including mechanics, hydraulics, pneumatics, control and regulating techniques, electronics, electrical engineering, and related plant and peripheral equipment. Graduates could apply to an upper secondary advanced specialization course in automation techniques, processing automation, and sawmill technology.

D. Telecommunications fitter: instruction, through in-plant training at firms outside school, in the installation and testing of electronics apparatus. Students were taught to assemble and adjust various lines of telecommunications equipment, use circuitry charts, install various kinds of low voltage apparatus, trace faults, and carry out repairs.

E. Office machinery repair: training in the servicing and maintenance of typewriters, calculating machines, dictating machines, copymachines, etc. Instruction was given in dismantling and assembling various kinds of office machinery (including electronic), making adjustments, tracing faults, and carrying out repairs. Graduates could apply for an upper secondary advanced course in automation techniques and computer servicing.

Food Manufacturing/Technology (*Livsmedelsteknisklinje*): The food manufacturing or technology line concentrated on technology, and much of the instruction was carried out in industry or restaurants.

Year 1- Two branches: restaurant and catering (preparation and serving of meals, and care of machinery and equipment used in catering facilities, restaurants, and hotels) and food production (baking, butchering, manufacture of dairy, chocolate, brewing, and tinned products, and care of food manufacturing equipment).

Year 2- Three subdivisions of the restaurant and catering branch: restaurant service (principles and methods for serving food and drink, forms of service, table laying, and table arrangements); catering (importance of a balanced diet, large-scale methods of cooking and preserving, principles of rational cookery, and use of catering machinery and utensils); and restaurant foods (various cookery methods, standard dishes, principles of rational cookery, arrangement and dispensing, menu composition, and food storage). Three subdivisions of the food production branch: baking and pastry making (baking breads and pastries, packaging, storage and refrigeration, and deep-freezing); butchering (butchering, methods of producing cured meats, storage, and use and care of utensils and machinery); and food processing (brewing, dairy, preparation of chocolate, canning and baking industries, control and monitoring production of food-stuffs in high technology food industries, packaging and storage techniques, record keeping, taking samples, laboratory tests).

Forestry (*Skogsbrukslinje*): The forestry line provided the general knowledge and skills required in forestry or related fields. Instruction concentrated on mechanical engineering (design, use, repair, and service of forestry machines), forestry production (soil sciences, botany, economics, and geography for forestry, planting and tending of stands), and logging (planning, felling, transport, and forestry rationalization). Students also learned measurement, wood technology, and nature conservation. Much of the instruction was carried out as practical work in the field.

Horticulture (*Trädgårdslinje*): The horticulture line provided basic knowledge and skills required for work in landscape construction and horticulture, and in cultivation. Instruction concentrated on landscape construction and horticulture (640 hours in use and care of technical aids for laying out and maintaining gardens, parks, churchyards, green areas, sports facilities, recreation areas, etc.). Instruction was provided in surveying, leveling and staking out, preparing and reading maps and drawings, building walls and steps, laying tiled paths, building fences, and laying out and maintaining lawns, as well as nature conservation, landscape conservation, and environment protection. Particular emphasis was placed on plant studies and on methods of planting and caring for vegetation; outdoor cultivation (600 hours in cultivation of vegetables, fruit, berries, nursery plants; instruction in botany, soil sciences, plant nutrition, and economics; greenhouse cultivation), (680 hours in cultivation of cut flowers, pot plants and vegetables, instruction in building and in greenhouse protection); and applied mechanics, (360 hours of instruction in use and care of machinery employed by horticultural enterprises and park authorities, tractor driving, rotary cultivators, etc.).

Motor Technology (*Fordonsteknisklinje*): The motor technology line provided the basic knowledge and skills required for employment in motor engineering. Graduates of all five branches were eligible for an upper secondary advanced course in transport management.

Year 1- A common course included Swedish, motor engineering, and optional subjects. Motor engineering work techniques and vocational theory took up two-thirds of the line.

Year 2- Study was divided into five branches:

A. Motor mechanics focused on repair techniques in the areas of servicing and maintenance of different engines, electrical systems and instruments, transmissions, braking systems, steering gears, and chassis; tool care; and welding.

B. Plant mechanics: similar to motor mechanics branch, but provided instruction in special machines such as road construction machinery, lifting gear, power saws and forestry and agricultural machinery; diesel engines; hydraulic systems; and welding repairs.

C. Spare parts service: instruction in warehouse techniques and calculating, goods reception and storage, salesmanship, dispatching operations, warehouse accounting and purchasing, business, and bookkeeping. Students studied in firms outside the school and circulated within the firm among various workplaces such as the warehouse, the sales counter, goods reception, etc.

D. Aircraft mechanics: involved more theoretical studies than the other branches and included physics, electricity, and aerodynamics. Instruction was given in regulations applied to civil aviation, construction and working of aircraft and various control and navigation systems, hydraulic and pneumatic systems, electrical systems, and instrumentation systems.

E. Transport technology: instruction in driving different types of vehicles and machines, loading and unloading, the organization of transport operations, occupational safety and health, the environment, and road safety.

Music (*Musiklinje*): The music line was intended to equip a student with basic musical knowledge and provide an opportunity for specialized music studies. The curriculum and average number of hours per week taken over 2 years included: social sciences (3), choral singing (1)*, consumer education (3), English (3), ensemble performance (2.5)*, freely chosen music work (1)*, general theory of music (2), history (2.5), introduction to history of music (2), instruments and singing (3.5), mathematics (3), movement (2)*, music (1), physical education (1), psychology (3), religion (2), reserve period (1), Swedish (3), and optional subjects (second foreign language, music, drawing, handicraft, drama). An asterisk (*) indicates a nongraded course, marked as *deltagit* (participated).

Nursing and Health Care (*Vårdlinje*): The nursing and health care line, with four branches, was intended for students planning to become nursing assistants or practical nurses in health and medical services, or in care of the aged. Instruction in the psychiatric care branch was intended for students planning to work as attendants in mental care or at institutions for handicapped adults. Instruction in the child and youth welfare branch was intended for those planning to work as child supervisors in preschool and leisure activities, at orphanages, as attendants in institutions for handicapped children, or with children and young people with handicaps. The child nursing branch was for students interested in the hospital care of infants and sick children. The health, medical services, and geriatrics branch of the line was for students intending to become nursing assistants and practical nurses in health and medical services or in the care of the aged. This line was radically changed under the new program effective in July 1993 (numbers in parentheses are hours per year).

Year 1- All branches: Swedish (160), working life orientation (40), psychology (65), physical education (80), reserve period (4), optional subject (English, a second foreign language, religion, social sciences, consumer education, mathematics, music or drawing) (120). Additional courses in the child and youth welfare and child nursing branches included nursing education

(195), child studies (297), and child welfare practice (483); the health, medical services, and geriatrics branch in adults added nursing education (414), child studies (78), and nursing/care practice (483).

Year 2- All branches: Swedish (120), working life orientation (40), and physical education (80). Additional courses in the child and youth welfare branch included psychology (77), social medicine (26), family affairs (38), anatomy and physiology (26), microbiology and hygiene (13), pathology (57), nursing education (44), child and youth studies (263), child welfare practice (525), and music (51); in the child nursing branch psychology (77), social medicine (26), family affairs (38), anatomy and physiology (38), microbiology and hygiene (37), pathology (57), nursing education (149), child and youth studies (122), nursing/care practice (525), and music (51); in the health and medical sciences and geriatrics branch psychology (51), social medicine (44), anatomy and physiology (70), microbiology and hygiene (51), pathology (69), pharmacology (45), nursing education (265), and nursing/care practice (525), and in the psychiatric care branch psychology (51), social medicine (57), anatomy and physiology (70), microbiology and hygiene (51), pathology (69), pharmacology (45), nursing education (252), and nursing/care practice (525).

Nursing care practice and child care practice were graded only pass/fail. Instruction in the nursing line also provided a foundation for further training in the nursing and care sector. After at least 6 months' employment, students could apply to postsecondary studies in nursing or social services. They were also then qualified under the regulations of the National Board of Health and Welfare (*Socialstyrelsen*) for employment as practical nurses in health and medical services, as nurses in hospitals mainly concerned with mental care, or in hospitals or institutions for the mentally retarded. Graduates of the child and youth welfare branch qualified for admission to postsecondary training courses for child care teachers, preschool teachers, and social and recreational instructors. Graduates of the child nursing line could apply for admission to the postsecondary nursing training program at a college of health sciences or university.

Operations/Control and Maintenance (*Drift- och underhållsteknisklinje*): The operations and maintenance line provided the basic knowledge and skills required for employment in power and heat production plants, property facilities, water and sewage purification plants, and marine engineering. The studies were both theoretical and practical. Those dealing with operating techniques were evenly divided between theoretical, experimental, and practical exercises in operating and maintenance techniques.

Year 1- Common core courses for all students included Swedish, English, mathematics, and technical subjects, with technical subjects occupying approximately two-thirds of the time.

Year 2- Study was divided into three branches:

A. Energy technology: operation of energy production and process engineering systems, both in economic terms and from the viewpoint of safety. Instruction included calculations, sampling and analyses, running tests and monitoring energy production, and process engineering systems and installations. There were three specialties offered: power and heating technology, property maintenance, and water and sewage.

B. Marine engineering: knowledge of equipment; operation and maintenance on board ship; basic knowledge of fishing, navigation, and seamanship; studies of construction of ships; cargo handling and seamanship; and machinery aboard ship. Instruction included calculations, sampling and analyses, operational testing and monitoring of machinery and installations, and a certain amount of practice in connection with the navigation and maneuvering of ships. There were three specialties within the branch: deck technology, mechanical engineering, and fishing technology.

C. Electrical power: knowledge of electrical equipment; devices for control and regulation; and the supervision of operations. Studies were made of the structure and design of electrical systems and control systems, that included repairs, maintenance and monitoring of devices such as winches, cranes, and control components; trouble shooting; and maintenance in electrical systems and control systems. The branch focused on marine electronics with in-depth studies of the problems of operation and maintenance associated with electronic equipment, control equipment, and regulating equipment aboard ship and with navigation aids.

A number of years of job experience were required before full vocational competence in the field could be achieved. Students could also continue postsecondary studies in a 2-year course of vocational training (*yrkesteknisk*) at the postsecondary level within the universities and institutes of technology. Graduates of the operation and maintenance line were eligible for admission to postsecondary ship's officer training courses for mates, masters, assistant ship's engineers, and marine engineers.

Process Technology (*Processteknisklinje*): The process technology line provided basic knowledge and skills required for employment in certain processing industries (numbers in parentheses are hours per year).

Year 1- Common core of courses included Swedish (160), working life orientation (40), work technique (360), vocational theory (720), physical education (80), reserve period (40), and optional subjects (English, a second foreign language, religion, psychology, social sciences, consumer education, mathematics, music or drawing) (120). Instruction was designed to give all students a basic knowledge of raw materials, semi-manufactured, and finished products in the processing industry, and the working and uses of motors, apparatus, and other production equipment and plants. Students received basic instruction in bench and tube work, brazing, maintenance work, sampling, material control and trouble shooting, energy production and automatic controls, and control engineering.

Year 2- Students concentrated on one of the branches (chemical engineering, paper and pulp, metallurgy, and building materials) and spent some time in workplaces outside the school. Also included was working life orientation (40), work technique (from 440 to 960 lessons depending on branch), vocational theory (from 320 to 840 lessons depending on branch), physical education (80), optional subjects (120).

Social Studies (*Sociallinje*): The social studies line provided general knowledge as a foundation for both vocational choices and further education. It served particularly as a foundation for further education focusing on social work, nursing and care, the teaching profession, and other occupations concerned with personal contacts and social ser-vices. Graduates were eligible for the upper secondary advanced specialized course in social administration. The principal subjects taught were natural sciences (physics, chemistry, biology, and geoscience, which included laboratory exercises and excursions to study ecology and natural geography); sociology (study of the individual and the family in a changing society and social policy pursued by the community, which included field trips and group work); and social sciences, history, and mathematics. In mathematics, the studies included an introduction to a number of elementary concepts in the theory of probability and statistics, use of slide rule and calculating machines, and introduction to applications of mathematics (numbers in parentheses are hours per week).

Year 1- Common core subjects included Swedish (4), English (3), history (3), social sciences (3), mathematics (3), natural sciences (6), typing and office skills (4), music or drawing (2), reserve period (1), and optional subjects (same choices as in business 2-year line) (3).

Year 2- Study required Swedish (3), English (3), history (2), religion (2), social sciences (3), sociology (5), mathematics (3), natural sciences (6), physical education (2), reserve period (1), and optional subjects (3).

Technology (*Teknisklinje*): The technology line was divided into four branches in year 1: mechanical, building, electro-, and chemical engineering. The line provided basic technical education and specialized knowledge within the trade. Admission to year 2 required students have at least 9 months of job experience relating to the branch of preference, that could be completed before or after the first year of the line (numbers in parentheses are hours per week).

Year 1- Common core subjects in all four branches included Swedish (4), English, German, or French if the latter two languages were studied in compulsory school (3), mathematics (6), physics (4), physical education (3), and the reserve period (1). Students in the chemical engineering line took 8 hours per week of chemistry, while the other branches took only 2 hours per week. They also took only 6 hours in technical subjects, while students in the other branches took 12 hours.

Year 2- The line varied depending on the branch. In all branches students took religion (2), social sciences (2), physics (3), ergonomics (2), physical education (1), and the reserve period (1). Students in mechanical engineering, chemical engineering, and building took two periods of mathematics; those in electro-power and telecommunications took four. All but building branch students took business economics (2). Technical subjects occupied the rest of the schedule, with between 18 and 22 lessons depending on the branch.

Woodworking Technology (*Träteknisklinje*): The woodworking technology line provided the basic knowledge and skills needed for employment in the wood conversion sector (joiner factories, wood furniture factories, prefabricated building factories, etc.).

Year 1- Common core courses were required for all students.

Year 2- There were three branches: joiners (further studies in use of sawing and planing machines, milling machines, and drilling and polishing machines), pattern makers (creation of foundry molds of wood and plastics), and boat builders (building and repair of small craft). Much of instruction involved making articles.

Of the total study lessons of 3,050 hours, 2,360 were devoted to work technique and vocational theory. After completion of the joiners branch, students could take upper secondary school advanced specialization courses in furniture making and interior fittings or cabinet making and joinery.

Workshop Technology (*Verkstadsteknisklinje*): The workshop technology line provided students with the basic knowledge and skills required for employment in the engineering industry, including engineering shops, shipyards, and steel mills.

Year 1- Common core courses concentrated on workshop techniques (use and maintenance of tools and machines, elementary grinding, turning, milling, plate work, brazing, and welding).

Year 2- There were four branches: workshop mechanics (deeper knowledge of different tools and machines used for turning, milling, grinding, drilling, etc.); metal workers and welders (further instruction in mechanical sheet metal fabrication, hot and cold straightening, gas-shielded arc welding, gas cutting, brazing and braze welding, etc.); heavy plate (instruction with firms in the trade to build up special skills); and steel mill trades (in-plant training in the production department of a steel mill).

Out of 3,040 hours of training, 2,360 were spent in workshop technique and vocational theory. Graduates could take advanced specialization courses in precision engineering, tool technology and machinery, sawmill engineering, and welding.

Specialized Courses

The integrated upper secondary school lines also offered specialized courses that qualified students for a particular occupation. The majority of them could be entered immediately from compulsory school, while some required upper secondary school courses. These courses that required at least 2 years of upper secondary school work were referred to as advanced specialized courses (*påbyggnadsutbildningar*). Specialized courses could be taken as extension courses and in some cases as sandwich studies (theoretical instruction alternating with vocational experience). Most included some form of practical training. Among courses that could be entered directly from compulsory school were (numbers in parentheses are years of study): caretaker (2), chimney sweep (2), decorator (2), dental nurse (2), furrier (2), gentlemen's hairdresser (3), ladies' hairdresser (3), optician (2), photographic staff (2), typist (1 term), upholsterer (2), welder (1 term). Specialized courses were still offered after the reform, but many have been incorporated into the new programs and others are part of municipal adult education. A few are offered as tertiary education.

Adult Education for Primary and Secondary Studies

Upper secondary studies can be pursued at a later point by enrolling in courses offered by Municipal Adult Education (*Kommunal Vuxenutbildning/Komvux*). *Komvux* was established in 1968 to provide adults with an educational opportunity corresponding to secondary school. In 1982, an official *Komvux* curriculum was issued by the Ministry of Education. Courses are equivalent to those in compulsory and upper secondary school, grades 7-9 and 10-12. *Komvux* is organized by subject courses identified by *etapp* (stage), and adults can study part-time or fulltime (1 to 4 courses):

etapp 1 = year 9 of compulsory school
etapp 2 = level 2 of upper secondary school
etapp 3 = level 3 of upper secondary school
etapp 4 = advanced work in certain subjects

The education law that became effective in 1992 continues the practice of requiring that *Komvux* courses be equivalent to those in the upper secondary school national programs. The law makes it a duty and responsibility of every municipality to provide basic adult education (grades 1-9) to all residents who desire it.

Students who complete their upper secondary studies by taking *Komvux* courses receive an upper secondary school leaving certificate (*Avgångsbetyg 2* from *Komvux*) for completion of a 2-year line from *Komvux* (see Document 3.2) or an upper secondary school leaving certificate (*Avgångsbetyg 3* from *Komvux*) for completion of a 3-year line from *Komvux*. A certificate (*Samlat Betygsdokument*) can be given but it is not the final one for completion of single courses.

Students can also complete upper secondary studies in a *gymnasieskola* and then take courses in *Komvux* to meet specific university admission requirements. Their marks in *Komvux* courses that fulfill specific admission requirements are averaged into their upper secondary school marks when they apply for admission to tertiary programs.

Students can also complete upper secondary level studies by enrolling in a folk high school (*folkhögskola*). (See Chapter 7, Adult Education)

Study Programs After July 1992

A July 1992 Parliamentary law reduced the number of programs from 30 to 16: 14 vocational

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and two university preparatory programs. The goal is to create an upper secondary school that offers students freedom of choice and meets the needs of the community at large, while being adaptable to changes in society. As of fall 1992 upper secondary school lines became 3-year programs that give general eligibility for higher studies, although since 1993 every tertiary program has set its own specific entrance requirements.

Parliament and the government now stipulate the goals for education, but give considerably more responsibility to local authorities. They do require that all municipalities provide upper secondary education to everyone under the age of 20 who has completed compulsory school studies, not the case previously. Funds are now allocated to the municipalities for education and other purposes such as child care, but the method of achieving the goals is decided by local authorities and schools.

National goals for each program are established by the government through the National Agency for Education (*Skolverket*). A minimum guaranteed time for study over the 3 years is mandated: 2,180 clock hours for the study oriented programs and 2,400 clock hours for the vocationally oriented programs. Thirteen to fifteen percent of the program is available for individual options or local additions (see Table 3.6 for 1993 course list). The new national programs and their branches are:

Arts (*Estetiska*): broad basic education for work in the arts, branches in dance and theater (*dans- och teater*), art and design (*konst- och formgivning*), and music (*musik*).

Business and Administration (*Handel- och administration*): training for work in business and administration in private business and the public sector.

Child Recreation (*Barn- och fritid*): training for child care, leisure activities, healthcare, libraries, etc.

Construction (*Bygg*): training for work in the construction industry, housing, or civil engineering, branches in construction metalwork (*byggplåt*), building and construction (*hus- och anläggningsbyggnad*), and painting (*måleri*).

Electrical Engineering (*El*): training for work on installation, repair, and maintenance of electrical, telephone, and electronic installations, branches in automation (*automation*), electronics (*elektronik*), and installation (*installation*).

Energy (*Energi*): training for work in electrical plant and electrical power industry, heating, ventilation, and sanitation installations and aboard ship. Branches in energy (*energi*), shipbuilding (*skeppsbyggnad*), and heating, ventilation, and sanitation (*värme, vatten, och sanitet/vvs*).

Food (*Livsmedel*): training for work in food industry and food sales. Branches in baking and confectionery (*bageri och konditori*) and fresh and cured meats (*kött och charkuteri*).

Handicraft (*Hantverk*): training for work in several handicraft trades. Much of the program takes place at workplaces outside school. Branch: handicraft trades.

Healthcare (*Omvårdnad*): training for work with people of all ages in healthcare, welfare, or dentistry. Branches in healthcare (*omvårdnad*) and dental nursing (*tandvård*).

Hotel, Restaurant, and Catering (*Hotell- och restaurang*): training for work as a receptionist, conference host, waiter, or cook. Branches in hotel (*hotell*), restaurant (*restaurant*), and catering (*storhushåll*).

Industry (*Industri*): training for work in industrial production including programming and processing for industrial robots, machines, etc. Branches in industry (*industri*), process industries (*process*), textile and clothing manufacturing (*textil och konfektion*), and woodwork (*trä*).

Media (*Media*): training for work in advertising, design, and production of printed material. Branches in information and advertising (*information och reklam*) and graphic media (*tryckmedier*).

Natural Resource Use (*Naturbruk*): training for work in agriculture, silviculture, horticulture, or with animals.

Natural Sciences (*Naturvetenskap*): university preparatory studies directed towards further studies in mathematics, scientific subjects, and technology. Branches in natural sciences (*naturvetenskaplig*) and technical (*teknisk*). (These branches remain very similar to the former lines in these fields.)

Social Sciences (*Samhällsvetenskap*): university preparatory studies directed towards further studies in social sciences, business, and languages. Branch in business/economics (*ekonomi*), humanities (*humaniora*), and social sciences (*samhällsvetenskaplig*).

Vehicle Engineering (*Fordon*): training for repair and maintenance of motor cars, trucks, and machines. Branches in aircraft engineering and maintenance (*flygunderhåll*), coachwork (*karosseri*), vehicle repair (*reparation*), and transport (*transport*).

A municipality or region may establish local branches that provide an education adapted to local needs and conditions. In the new national programs, the local authorities or school officials decide when different subjects are to be studied during the 3-year period. There is no central directive on the length of lessons, which allows subjects to be studied in concentrated blocks. All programs include core subjects in Swedish, English, social sciences, religion, mathematics, natural sciences, sports and health, and art. Except in the humanities, natural sciences, and social sciences programs, some of the education takes place at work rather than in school, so that students can practice knowledge they have acquired. At least 15% (approximately 15 weeks) of the total 3-year period requires onsite practical training.

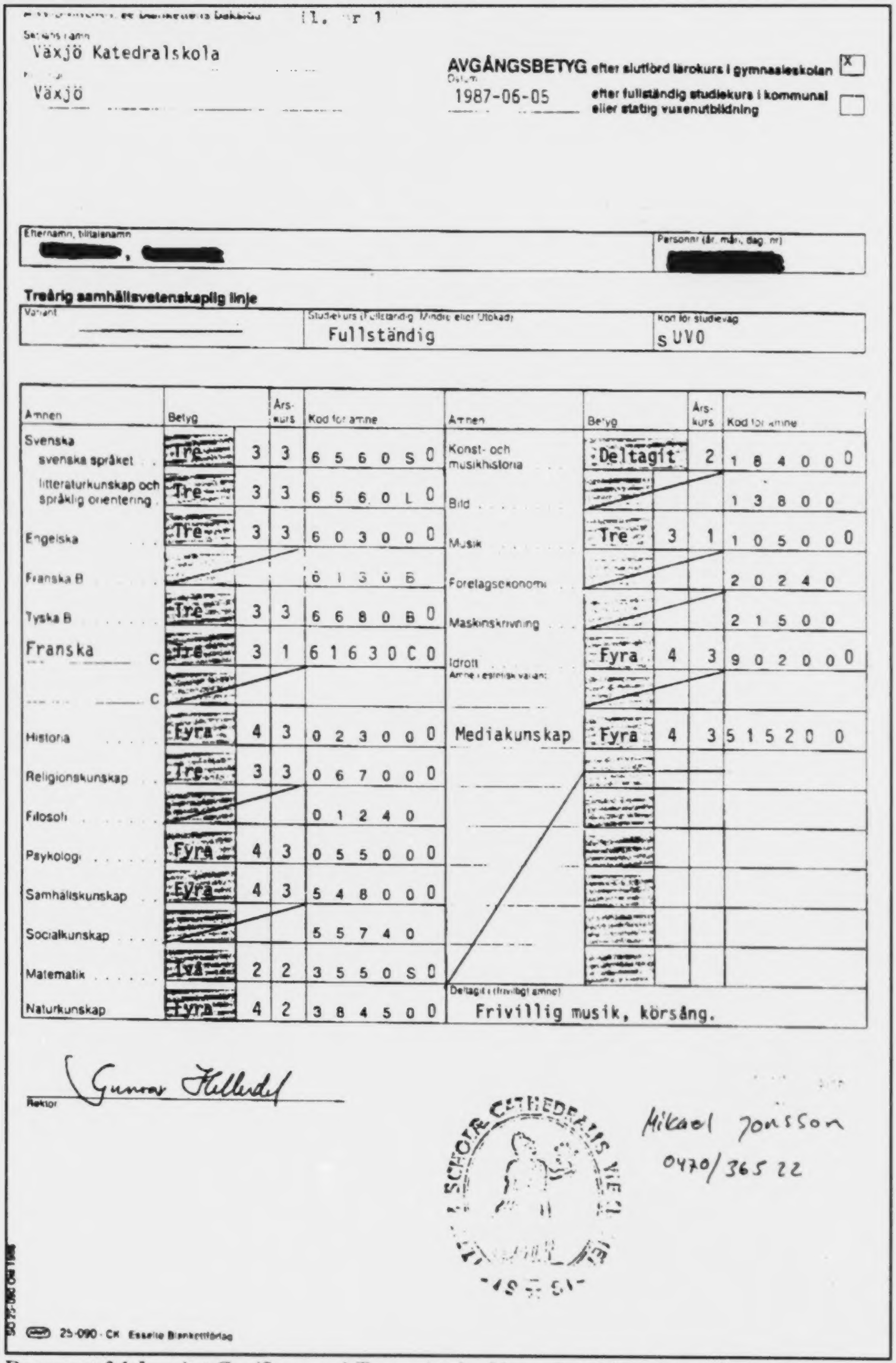
The law gives considerably more independence to students in creating their own programs, permitting them to change the direction of their studies and make successive choices. Students can now choose any subject offered in the national programs for a 1-year period before deciding to complete a program, or they may create their own 3-year program, provided that they have included in it the eight required core subjects.

Table 3.6 Upper Secondary Course List (1993, with total 1-hour periods over 3 years)

Subject	Arts	Natural Sciences		Social Sciences			Other
		Natural Sciences	Technology	Business	Humanities	Social Sciences	Vocational
Swedish	200	200	200	200	200	200	200
English	150	150	150	150	150	150	110
Social Sciences	90	90	90	90	90	300	90
Religion	30	30	30	60	60	60	30
Mathematics	150	240/300	240/300	200	150	200	110
Science	30	30	30	100	100	100	30
Sports and Health	80	130	80	130	130	130	80
Arts	30	30	30	30	30	30	30
History	80	80	80	80	190	190	—
Philosophy	—	40/0	—	40/0	40	40	—
Psychology	—	0/40	—	0/40	40	40	—
Geography	—	—	—	50	—	140	—
B-Language*	—	190	190	190	190	190	—
C-Language*	—	—	—	0/190	190	—	—
Latin or D-Lang.*	—	—	—	—	240/190	—	—
Humanities or Social Sciences	—	—	—	—	60/110	60	—
Physics	—	220	220	—	—	—	—
Chemistry	—	180	140	—	—	—	—
Biology	—	110	50	—	—	—	—
Arts Subjects	990	—	—	—	—	—	—
Business Subjects	—	—	—	510/320	—	—	—
Environ. Subjects	—	60/0	60/0	—	—	—	—
Technical Subjects	—	60	270	—	—	—	—
Vocational Subjects	—	—	—	—	—	—	1370
Individual Options	190	190	190	190	190	190	190
Local Options	130	120	100	130	100	130	130
Total Teach. Hrs.	2150	2150	2150	2150	2150	2150	2370
Special Projects	30	30	30	30	30	30	30
Total Hrs.	2180	2180	2180	2180	2180	2180	2400

Note: General curricula for studies beginning 1993. It will be fully implemented in 1995.

* B-Language is a second language after English, C-Language is a third language, and D-Language is a fourth language.



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Skolans namn
Växjö Katedralskola

Ort
Växjö

AVGÅNGSBETYG efter slutförd lärokurs i gymnasieskolan ☒

Datum
1987-06-05

efter fullständig studiekurs i kommunal eller statlig vuxenutbildning ☐

Efternamn, tilltalsnamn: [redacted], [redacted]

Personnr (år, mån, dag, nr): [redacted]

Treårig samhällsvetenskaplig linje

Variant: ____

Studiekurs (Fullständig, Mindre eller Utökad): Fullständig

Kod för studieväg: s UV0

Ämnen	Betyg		Årskurs	Kod för ämne
Svenska svenska språket	Tre	3	3	6560S0
litteraturkunskap och språklig orientering	Tre	3	3	6560L0
Engelska	Tre	3	3	603000
Franska B				6130B
Tyska B	Tre	3	3	6680B0
Franska C	Tre	3	1	61630C0
C				
Historia	Fyra	4	3	023000
Religionskunskap	Tre	3	3	067000
Filosofi				01240
Psykologi	Fyra	4	3	055000
Samhällskunskap	Fyra	4	3	548000
Socialkunskap				55740
Matematik	Två	2	2	3550S0
Naturkunskap	Fyra	4	2	384500

Ämnen	Betyg		Årskurs	Kod för ämne
Konst- och musikhistoria	Deltagit		2	184000
Bild				13800
Musik	Tre	3	1	105000
Företagsekonomi				20240
Maskinskrivning				21500
Idrott	Fyra	4	3	902000
Ämne i estetisk variant				
Mediakunskap	Fyra	4	3	515200

Deltagit i (frivilligt ämne): Frivillig musik, körsång.

Gunnar Hellerdal
Rektor

Mikael Jonsson
0470/365 22

25-090 · CK Esselte Blankettförlag

Document 3.1 Leaving Certificate and Transcript for Upper Secondary School Social Sciences

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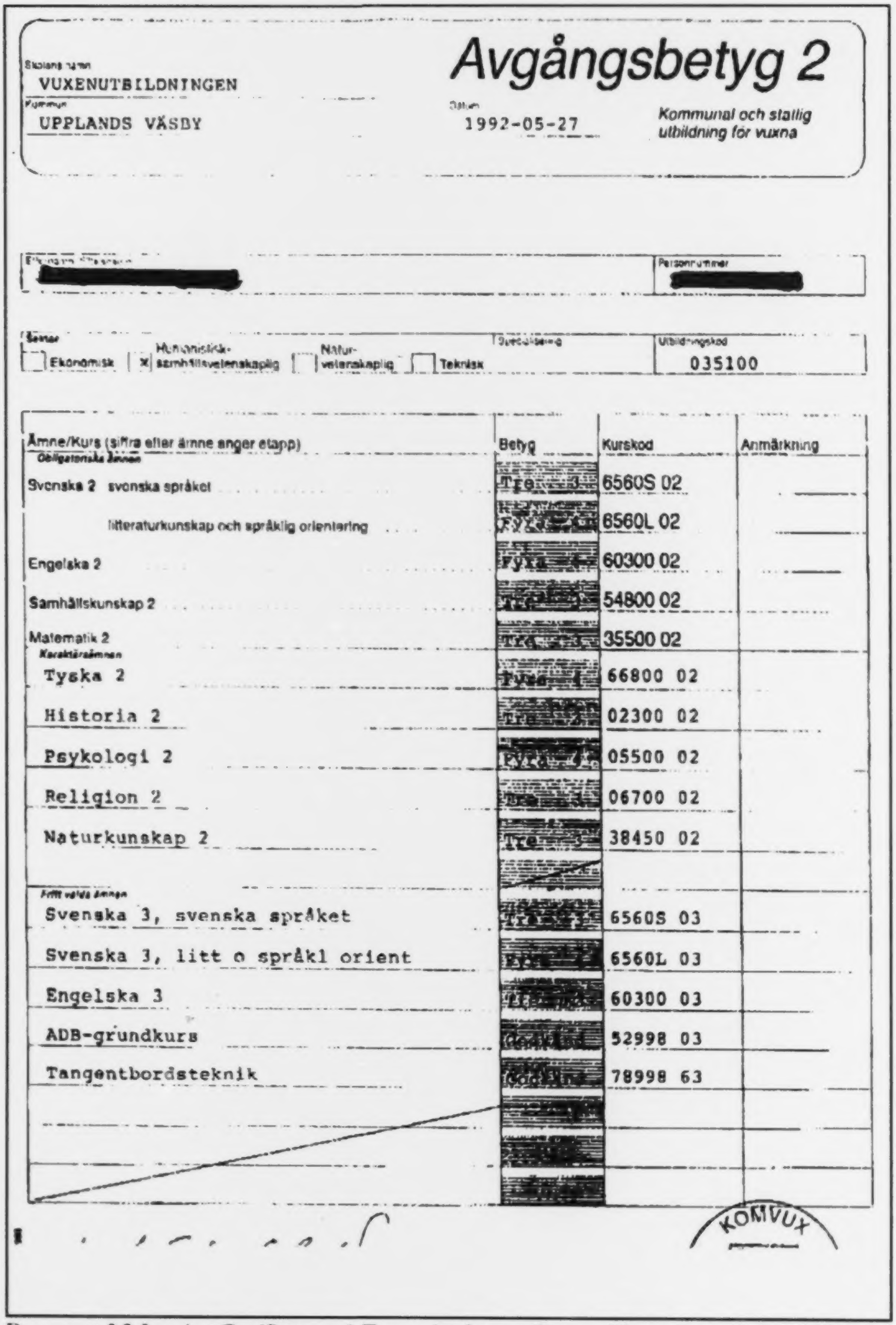

Avgångsbetyg 2

Skolans namn
VUXENUTBILDNINGEN

Kommun
UPPLANDS VÄSBY

Datum
1992-05-27

Kommunal och statlig utbildning för vuxna

Efternamn, tilltalsnamn
[redacted]

Personnummer
[redacted]

Grenar
☐ Ekonomisk ☒ Humanistisk-samhällsvetenskaplig ☐ Natur-vetenskaplig ☐ Teknisk

Specialisering

Utbildningskod
035100

Ämne/Kurs (siffra eller ämne anger etapp)	Betyg	Kurskod	Anmärkning
Obligatoriska ämnen			
Svenska 2 svenska språket	Tre 3	6560S 02	
litteraturkunskap och språklig orientering	Fyra 4	6560L 02	
Engelska 2	Fyra 4	60300 02	
Samhällskunskap 2	Tre 3	54800 02	
Matematik 2	Tre 3	35500 02	
Karaktärsämnen			
Tyska 2	Fyra 4	66800 02	
Historia 2	Tre 3	02300 02	
Psykologi 2	Fyra 4	05500 02	
Religion 2	Tre 3	06700 02	
Naturkunskap 2	Tre 3	38450 02	
Fritt valda ämnen			
Svenska 3, svenska språket	Tre 3	6560S 03	
Svenska 3, litt o språkl orient	Fyra 4	6560L 03	
Engelska 3	[illegible]	60300 03	
ADB-grundkurs	Godkänd	52998 03	
Tangentbordsteknik	Godkänd	78998 63	

KOMVUX

Document 3.2 Leaving Certificate and Transcript from a *Komvux* Upper Secondary School for a 2-Year Humanities/Social Sciences Line

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Chapter 4

Higher Education

The Early Years

Prior to the reform of 1977, postsecondary educational institutions were classified according to the type of programs offered and whether they were research based. The four types of postsecondary institutions were universities, university colleges, institutes, and vocational schools, including colleges of health. Universities offered a broad range of programs and had research facilities, while university colleges, some of which had originally been established as university satellites in smaller cities, were broader based in their programming but did not include research. Institutes undertook research and offered academic programs (for example, the Royal Institute of Technology or Karolinska Institute of Medicine). Vocational schools had very specialized curricula that did not involve research.

The universities and institutes had permanent funding from the government for research and research training. University colleges developed resources for research but support was given in the form of government grants and in many cases was linked to local industry.

Reform

Sweden's postsecondary educational system has undergone major reforms in recent years. With the reform of 1977, the number of institutions and students increased while the system became more centralized. Since the reform of 1993 it has become decentralized and now gives greater freedom to individual institutions and students. Sweeping changes in primary and secondary levels have led to changes at the university level and within programs such as teacher education.

In the 1977 reform all postsecondary institutions, including the traditional universities and professional institutes and 100 postsecondary vocational institutes, were integrated into one system (see Figure 1.2). Higher education institutes, some of which had been satellite sites of the universities, later became independent university colleges (*högskola*), a Swedish term that literally translates into English as "high school." A few institutions, for example the Stockholm School of Economics and the schools for the arts in Stockholm, remained independent of the other institutions but were still under the jurisdiction of the Ministry of Education and Science (*Utbildningsdepartementet*). At the end of the 1980s, some of the postsecondary technical programs that had been part of the upper secondary school system were changed and relocated in engineering programs, which were then integrated into the nearest university or university college. A quarter of the small institutes, usually health related, remained under regional or local control. The institutes for forestry, veterinary medicine, and agriculture remained under the Ministry of Agriculture (*Jordbruksdepartementet*) but were consolidated into the Swedish University of Agricultural Sciences. Integration of traditional universities and professional institutes was relatively easy because standards for admission were similar. Integration of the vocational institutes was more difficult due to the diversity of their programs.

The focus of the 1993 reform has been the decentralization of organization and resource management. The Ministry of Education and Science no longer determines the national curriculum for each program and so individual institutions now have that authority. Few changes will be seen immediately but students will have more freedom of choice in the selection of courses in their degree programs. Institutions can now decide how they will distribute the money given to them by the government. This new freedom allows them to determine the number of admissions to programs, to build on their strengths in certain fields, and to become leaders in these fields. The Office of the University Chancellor (*Kanslersämbetete*) has been created to evaluate and assess the quality of institutions and programs and also to examine the right of institutions to award degrees at different levels. Overall, the government is expecting increased numbers of students in higher education institutions and, in particular, increased numbers in the longer technical, science, and teaching programs, and in the advanced degree programs. A greater emphasis will be placed on international programs and experience abroad through ERASMUS and NORDPLUS and the further development of exchange programs.

Today the tertiary system consists of 7 universities; an agricultural university; 2 technical universities and 28 university colleges, including the arts and physical education; an institute of education; a private school of economics; and 29 colleges of health sciences (see Appendices A and B for institutional profiles). Many of the colleges of health sciences, funded by the municipalities, are merging because of funding and decreased enrollments. A few of the larger health colleges may merge with a nearby university college. Many of the university colleges are performing research and several have been given the authority to award the *Magisterexamen* (master's degree).

Financing of Studies

There are no tuition charges at any of the tertiary institutions. Students remain qualified for government grants and loans for living expenses as long as they complete their coursework within the required time limit. Government grants and loans are made through one of six district offices (*Studiemedelsnämnder*). There is also the National Board of Student Aid (*Centrala Studiestödsnämnden*), which gives financial aid to students in the form of grants and repayable loans. Grants generally represent one-third of total aid. Students may use the aid while studying abroad. Traditionally, interest on loans has been very low, but it is adjusted annually in relation to the consumer price index. It is not unusual for Swedes to be paying student loans well into their fifties.

Admission

General admission to all tertiary programs and single-subject courses requires at least:

1- either completion of upper secondary school, adult secondary school, folk high school, or foreign secondary school; or having reached the age of 25 with 4 years of work experience; and

2- Swedish and English corresponding to the second year level in the upper secondary school.

Specific additional requirements vary with each program. Several programs require additional tests, writing samples, interviews, and portfolios.

Applications to general study programs are processed through the National Agency for Higher Education (*Verket för Högskoleservice/VHS*). The bulk of the applications are for fall semester but some programs allow admission during the spring semester. The applicant selects up to 12 programs, listing them in order of preference. Course requirements from upper secondary school or adult education classes must be met, and applicants are ranked according to grade point average or scores from the Swedish Scholastic Aptitude Test (*Högskoleprov*).

Where circumstances warrant, applicants may request placement in a special consideration category, but only a small percentage are admitted this way. Approximately 50-60% of the admissions are through grade point ranking and the remainder are admitted through Aptitude Test scores. Students are admitted to a government-prescribed number of places in each program.

Admissions are processed in July after students receive final grades from upper secondary school, and admission takes place in August. The VHS sends a waiting list for each program at that time, and 60% of those admitted receive their first choice. Of the 90,000 (1993) applications, one-third were not admitted to any program. Applications for single-subject courses are processed directly by institutions.

Since July 1993 institutions have been able to determine the number of places, specific entrance requirements, and criteria for ranking students in each program, and can have the applications processed through VHS or at their own institution.

Swedish Scholastic Aptitude Test

The Swedish Scholastic Aptitude Test (*Högskoleprov*), first administered in 1977, was originally developed for applicants who had not received the upper secondary degree but qualified for admission under the 25/4 rule (25 years old with 4 years of employment experience). The test was developed with the assistance of the U.S.-based Educational Testing Service and modeled after its Scholastic Aptitude Test. In 1991 the national admission policy changed so that the final grade point average was no longer the sole criterion for admission. Now students can also be admitted according to their ranking on the Aptitude Test (Table 4.1). The scale ranges from 0 to 2, with 2 being the highest score. The average score is approximately .98. Over 90,000 Swedes take a new version of the test at each sitting. The test consists of six sections, including a section on English reading comprehension introduced in spring 1992. The score is valid for 5 years and the best score is used if there are multiple sittings (see Document 4.1; score sample).

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Table 4.1 *Högskoleprov* (Swedish Scholastic Aptitude Test Scores, Fall 1992)

Score	%	Score	%	Score	%
0.0	1.7	.7	6.1	1.4	6.7
.1	3.5	.8	6.7	1.5	5.7
.2	3.0	.9	7.3	1.6	4.6
.3	3.3	1.0	7.7	1.7	3.4
.4	4.0	1.1	7.6	1.8	2.2
.5	4.7	1.2	7.4	1.9	1.2
.6	5.4	1.3	7.2	2.0	.6

Academic Year

The academic year is normally composed of two 20-week semesters or terms, autumn (*höst*) and spring (*vår*), and the semester is 4 to 5 weeks longer than the average semester in the United States. The autumn semester starts at the end of August or beginning of September and ends in mid-January; the spring semester begins in mid-January and ends in early June. There are normally short breaks at Christmas and Easter. Most programs begin only with the fall semester but some accept students beginning either semester.

Degree Programs

Before July 1993 the educational system was organized into general study programs (*allmänna utbildningslinjer*), local study programs (*lokala utbildningslinjer*), and single-subject courses (*fristående kurser*) formerly known as *enstaka kurser*. With the reform of 1993 institutions were allowed to develop their own programs.

General Study Programs

Over 100 General Study programs, varying in length from 1 to 5.5 years, were established and funded by Parliament. The entire curriculum was planned by the National Board of Universities and Colleges (*Universitets- och Högskoleämbetet/UHÄ*) in order to ensure that each program had the same basic structure wherever it was offered. However, since the educational reform of 1993 the content, materials, length, etc. have been determined by each institution. The programs were grouped into one of the following five sectors: administrative, economic, and social work; education; health; information, communication, and culture; and technical and scientific. Since the 1977 reform, emphasis has been placed on education that would lead to specific occupations, which has led to fewer programs in the humanities. The programs can lead to a certificate or a degree.

Local Study Programs

Local Study Programs were developed by institutions to meet the specific needs of their regions, and provide distinctive specialties and interdisciplinary combinations that lead to degrees.

Single-Subject Courses

Each institution offers a wide variety of single-subject (*fristående*) courses, also called separate, independent, or free-standing courses. They range from basic to advanced level in various subjects and vary in length, with 20 points being typical (see "Credits" below). These courses may be taken full- or part-time and combined to obtain a *Högskoleexamen på Enstaka Kurser* (Bachelor of [field] degree) if the conditions have been met. Some of these courses may also be part of the general study program. The degree is equal to that obtained through general study or local study programs. Holders are eligible for admission to doctoral degree studies. Beginning in 1993 students were required to complete 60 points in the major subject with a 10-point thesis and at least 120 points for the *Kandidatexamen*, or 80 points in the major subject with a 20-point thesis and at least 160 points for the *Magisterexamen*.

Those who wish to enroll in single-subject courses apply for admission every semester directly to the institution giving the course, and must meet the minimum standard set. Since July 1993 more emphasis has been given to this form of study as an alternative study program. Applicants apply to these courses for one of four reasons: (1) they wish to take certain courses in a specific field; (2) they were not admitted to the General Study program (30% to 40% of the general program applicants also apply for single-subject courses); (3) they have a general interest in a subject; or (4) they want to choose their own combination of courses. A specific number of points is required in the major subject for each degree. Many students meet the requirements for a degree but never formally request to receive it because gaining employment in a particular field may require experience in the area rather than a formal degree. It is also possible for a student to transfer from single course study to a General Study program and complete a degree. Upon completion of each course, a certificate (*bevis*) is awarded if requested.

Advanced Study Courses

Advanced study courses (*påbyggnadslinjer*) are usually 20 to 40 points in length and are taken after completion of a first degree. These courses provide advanced training or specialization in specific areas but are not part of a doctoral program.

Degree Programs and Credentials

Descriptions of all degree programs in specific areas of study and courses may be found in Chapters 5 and 6. Also included are the names of the credentials awarded both before and after the reform of 1993 with their official English translation as determined by the Swedish ministry.

Class Structure

A variety of teaching methods are employed, and the amount of time spent in classrooms depends upon the area of study. This can range from 8 to 10 hours per week in the humanities and social sciences, to over 30 in the engineering and physical sciences courses. There is a syllabus for each course or study program, which in some cases is available in English. In the great variety of offerings, students may attend lectures with hundreds of others, or classes of only 20 to 30 students that are primarily discussion oriented. Laboratory sections, mainly in the natural sciences and technology, consist of small groups. There are also seminars that focus on special subjects. Students may be involved in group work on assignments with teacher guidance, or in tutorials for individuals or small groups in which the teacher helps prepare for presentations or leads planning sessions. Most classes are conducted in Swedish, but a large proportion of the textbooks are in English and a lesser number are in German or French. More courses are being offered in English every year at universities and university colleges (see Chapter 8).

Teaching Ranks

There are different levels of instructors within institutions:

A. Doctoral student (*assistent/doktorand*), who leads classes or laboratories;

B. Lecturer (*högskoleadjunkt*), who may or may not have the doctorate degree;

C. Senior lecturer (*högskolelektor/universitetslektor*), who has completed the doctorate or has equivalent experience, teaches, and is active in research;

D. Senior lecturer (*docent*);

E. Professor (*professor*), normally the head of a department, who is involved in research and teaches primarily at the graduate level, although this varies with the department.

In most fields, there has been a real push to hire faculty who have received the doctorate and also to encourage current faculty to finish their doctoral studies by offering time off or monetary incentives.

Course Level

Courses are offered at the basic, intermediate, and advanced level, often indicated by a letter or points. Level A (1-20 points) comprises basic courses; level B (21-40 points) has intermediate courses; level C (41-60 points) and in many subjects level D (61-80 points) are advanced level or graduate courses. A greater number of courses are available at the first level. To study at the advanced level, completion of the basic and intermediate levels is required. Level points should not be confused with points awarded for credit. Level points might appear with the department or title of the course, for example, *Fysik, grundkurs, 1-20 p.* The "1-20 p" indicates a basic level course. The points awarded for the course are a specific number (20 points), not a range of points (see discussion under "Credentials Awarded").

Examinations

One or more written or oral examinations may be given during or at the end of each course, and can also be an essay or written report. Basic courses usually have two or three exams while the more advanced courses have fewer. Students who fail an examination may retake it at a later date. All course examinations and thesis projects must receive passing marks in order to earn a degree.

Credits

All institutional credit is expressed in terms of a point (*poäng*). One week of successful fulltime study equals 1 point; 1 semester of successful fulltime study equals 20 points; 2 semesters equal 40 points. Courses vary in points, but the average course load for 1 semester is 20 points. Study programs range from 40 to 220 points (i.e., 1 to 5.5 years). The actual time taken to complete a study program may be longer than the points indicate, i.e., a 10-point thesis paper may take longer than 10 weeks to complete.

Licentiate and Doctoral Study

All graduate programs provide in-depth study in the field, training in methodology, and research experience. In Sweden these are referred to as postgraduate courses. Courses and research for degrees at this level are offered at most tertiary institutions, but the degree may only be awarded by the Universities of Göteborg, Linköping, Lund, Stockholm, Umeå, and Uppsala, the Institute of Technology at the University College of Luleå, Chalmers University of Technology, The Royal Institute of Technology, Karolinska Institute, Stockholm Institute of Education, Swedish University of Agricultural Sciences, and the Stockholm School of Economics.

Admission to the 2-year licentiate (*licentiat*) or 4-year doctorate (*doktor*) degree is decided by the department. Traditionally applicants apply to the same department from which they received their first degree and relatively few applicants are from other institutions. The general requirement for admission is completion of the first degree or equivalent, with special requirements determined by each department. Degrees in other fields usually require additional work within the chosen area.

The licentiate and doctoral programs consist of coursework and participation in seminars in the field or related areas. A student, with an advisor, decides upon a study plan and a topic for the thesis or dissertation during the first year, which must be approved by the department. The final part of the program is devoted to research and work on a thesis or dissertation.

The licentiate (*licentiatexamen*) degree is a 2-year, 80-point program that consists of approximately 30-40 points in courses; the remainder is research for the thesis. The coursework is usually the first portion of the doctorate. Graduates of a licentiate program may continue and complete the doctoral program. The thesis is written in Swedish or English, and defended at a seminar. Beginning in 1969 the licentiate degree was no longer awarded, with the last degree conferred in 1971. It was reinstated in 1981 in engineering, and in following years other fields began to reintroduce the degree. Only four licentiates were awarded in 1981, but by 1991 the number had increased to 420. The degree conferred may be the *Filosofie Licentiatexamen* (Licentiate in Philosophy) or may indicate the area of study such as *Ekonomie Licentiatexamen* (Licentiate in Economics).

The doctor (*doktorsexamen*) degree is a 4-year, 160-point program, with approximately 40-80 points in coursework and the remainder in research for the dissertation. The dissertation, usually in Swedish or English but it can be in other languages, has been traditionally nailed to a wooden beam for public inspection 3 weeks prior to the defense, which is conducted in public before a board. Copies of the dissertation are also sent to all other Swedish universities 3 weeks prior to the defense. In some fields the dissertation may be a collection of scholarly articles published in internationally recognized journals. The degree conferred may be the *Filosofie Doktorsexamen* (Doctor of Philosophy) or may indicate the area of study such as *Ekonomie Doktorsexamen* (Doctor of Philosophy).

The doctorate can be completed in 4 years of fulltime study, but usually takes longer if the student is working part-time or there is a shortage of resources needed to sustain a high level of research. The average length of study for the degree is 7 years. Students graduating in the fields of science, medicine, and agriculture complete their programs in about 6 years. Those in the fields of humanities and social sciences take, on the average, 10 years. The number of students pursuing doctoral degrees has been steadily increasing, from 11,800 in 1985 to 14,000 in 1991. Currently about half of the doctoral students are women, who represented one-third of the graduates in 1991. The completion rate has also been rising steadily, from 18% (855) in 1981 to 29% (1,161) in 1991. (Note: The doctoral degree [*Filosofie Doktorsgrad*] had been a purely research degree, but after 1969 was restructured to the present form and called the *Filosofie Doktorsexamen*.)

Grades and Transcripts

Along with a degree certificate, there is usually a list of subjects with grades (see Table 4.2) and the date of completion, in many cases provided in English by the institution. Students may also receive a computerized listing of all their courses, but this is not considered an official copy of the record. The list shows the number of times the final test has been taken, but, as noted above, a failure will never be indicated on a diploma or official transcript; only passing grades are registered. Students must pass all courses in order to receive a degree. The transcript (see Document 4.2) also indicates under which higher education act the degree was received, information valuable in determining the general requirements for that degree. All transcripts are in the public domain so anyone may request a copy. The degree is awarded by the institution in which the last course was completed, even though the remainder of the program was completed at another institution.

Credentials Awarded

The degree structure has evolved over the years but underwent the greatest change during the 1993 reform. A degree begun before July 1, 1993, can be completed under either old or new rules, and students have until 1999 to complete under the old system. Students who have already completed a degree program under the old system but who meet the requirements for a degree under the new system may also receive a new degree. Certificates and degrees include an English translation that has been officially determined by the government. The term *examen* means degree in Swedish education and should not be confused with an examination or test.

Table 4.2 Grades and Transcripts

	Official Swedish Translation	Swedish		Comments
Scale for most programs	Pass with Distinction	*Väl Godkänd*		*Väl Godkänd* is awarded less than 10% of the time.
	Pass	*Godkänd*		
	Fail	*Underkänd**		
Alternate scale	Pass	*Godkänd*		
	Fail	*Underkänd**		
Engineering Graded courses	Five or 5	*Fem*		Grades of 6 (*sex*) and 7 (*sju*) were given at one time at Chalmers.
	Four or 4	*Fyra*		
	Three or 3	*Tre*		
Non-graded courses	Pass	*Godkänd*		
Law - pre 1986	Honours	*Berömlig*	*3 A*	Before 1969 points were awarded for different levels of achievement; 3=60 points (honors), 2=40 points (high pass), 1=20 points (pass).
	High Pass with Distinction	*Med Utmärkt Beröm Godkänd*	*2.5 a*	
	High Pass	*Med Beröm Godkänd*	*2 AB*	
	Pass with Distinction	*Icke Utan Beröm Godkänd*	*1.5 Ba*	
	Pass	*Godkänd*	*1 B*	
	Fail	*Underkänd**		
Law - 1986 and after	Pass with High Distinction	*Med Beröm Godkänd*	*AB*	
	Pass with Distinction	*Icke Utan Beröm Godkänd*	*BA*	
	Pass	*Godkänd*	*B*	
	Fail	*Underkänd**		
Stockholm Sch. of Economics First 2 years	130-200 Pass with Honour	*Väl Godkänd*		
	100-129 Pass	*Godkänd*		
	0-99 Fail	*Underkänd**		
Last 2 years	150-200 Pass with Honour	*Väl Godkänd*		
	100-149 Pass	*Godkänd*		
	0-99 Fail	*Underkänd**		

* Failure never appears on the transcript.

The *Högskoleexamen* was first awarded in 1977 and replaced the old *Filosofie Kandidatexamen*, but the *Filosofie Kandidatexamen* was reinstated in 1986. The name "*Högskoleexamen*" was a general term for a certificate or degree awarded upon completion of a program, and was offered in all fields, whereas the *Filosofie Kandidatexamen* was only offered in particular fields, although in some cases both had the same degree requirements. Certificates and degrees were officially translated as either University Certificates, Bachelor's, or Master's degrees; the level and translation depended upon the final or total number of points for the program, as follows:

- 40 to 100 points, officially translated as the University Certificate;
- at least 120 points, officially translated as the Bachelor's degree;
- at least 160 points, officially translated as the Master's degree. This could also be the first degree awarded in a field, i.e., no degree was awarded with the completion of 120 points, usually the case in fields such as engineering, natural science, and medicine;
- advanced degree, points vary, required additional or specialized work in the field. The degree was officially translated as the Postgraduate Diploma/Certificate, Bachelor of Science, Master of Science, or University (Supplementary) Diploma depending upon the field or level.

Prior to the Reform of 1993

***Utbildningsbevis* (Certificate)** was awarded upon completion of a single course or short program; points vary (see Documents 4.3 and 4.4).

***Yrkesteknisk Högskoleutbildning/YTH - Högskoleexamen på (field)* (University Certificate in [vocational field])**, programs were 60 points in length and provided some theoretical training, although the main emphasis was on vocational coursework that could not be transferred for credit to regular programs. It was primarily a vocational qualification.

Högskoleexamen i/avseende grundläggande (field) **(University Certificate in [field])** had general and specific requirements for admission. The programs were usually the first 80 points of a longer program in fields such as law, public administration, or economics. The certificate was awarded upon completion of a basic program in the field.

Högskoleexamen i/på (field) **(University Certificate/Diploma in [field])** had general and specific requirements for admission. The programs were in various fields and 40 to 100 points in length.

Högskoleexamen i/på Enstaka Kurser **(Bachelor of Arts/Science/Social Sciences)** for degree obtained in single-subject coursework. The degree had general and specific requirements. Sixty points in one subject with a thesis and at least 120 total points were required (see Single-Subject Courses, this chapter).

Filosofie Kandidatexamen i/på **(Bachelor of Arts/Science/Social Sciences in [field])** had general and specific requirements for admission. The programs were in various fields and required completion of at least 120 points, with 60 points in the major subject and a 10-point thesis. The degree was not given during the years 1977 through 1986 but the *Högskoleexamen* was given instead. The degree was awarded upon completion of a general or local program (see Document 4.5).

Högskoleexamen på (field) **(Bachelor of Arts/Education/Fine Arts/Science/Social Sciences in [field])** had general and specific requirements for admission. The programs were in various fields and required at least 120 points. The degree was awarded upon completion of a general or local program.

Filosofie Kandidatexamen **(Master of Arts/Science/Social Sciences)** had general and specific requirements for admission. Completion required at least 160 points with 60 points in the major subject and a thesis.

Högskoleexamen på (field) **(Master of Arts/Fine Arts/Science/Social Sciences in [field])** had general and specific requirements for admission. The programs were in various fields and required completion of at least 160 points (see Document 4.6A-B).

Högskoleexamen avseende/på Påbyggnadslinjen **(Postgraduate Diploma/Certificate in [field], Master of Science [field], University (Supplementary) Diploma in [field])**, points vary. This credential was offered in limited fields of study and required completion of a degree in the field for admission. The level of the diploma varied; in some fields it was equivalent to a master's degree not available in that field. In other fields the diploma was awarded upon completion of a course or program and the level depended upon the specific requirements of admission and level of the program.

Filosofie Ämbetsexamen **(Master of Philosophy)** required general and specific requirements for admission. The 3-year teaching degree received from a university was followed by 1 year of teacher education coursework at a teacher's institute, which was not counted as part of the degree. The professional title given was the *Filosofie Magister*. This degree was phased out in 1969 with the last degree being awarded in 1974.

Juridisk-Samhällsvetenskaplig examen **(Master's in Law)** and ***Filosofisk-Samhällsvetenskaplig examen*** **(Master's in Political Science)** were 3.5-year to 4-year programs that were last given in 1974 and contained an equal amount of law and social science.

Samhällsplanerarexamen **(no official translation)** was a 3.5-year, 140-point program offered from 1977 to 1982. Stockholm University continued to offer the program until July 1993.

Professional degrees were awarded in engineering, medicine, social sciences, and education but not humanities (see Chapter 5 for degree names in professional fields). The programs varied in points and admission requirements, and required completion of upper secondary school or the equivalent. The number of points, admission requirements, and the official English translation of the professional degree helped determine the level of the degree. Professional degrees were translated as University Certificate in (field), University Diploma in (field), or Bachelor's or Master's degree (see Document 4.7).

Reform of 1993

After July 1993 the number of degrees was reduced and many degrees were consolidated or renamed. The official translation, provided in parentheses, is determined by the government and is subject to change.

General certificates and degrees awarded:

Bevis: Kursbevis, Examensbevis **(Certificate)** *bevis* or *kursbevis* is awarded for completion of courses or short programs, and points vary. The *examensbevis* is awarded for completion of degree requirements, and points also vary.

Högskoleexamen i/på (field) **(Diploma in [field])** requires the completion of 80 points in the field.

Högskoleexamen avseende/på påbyggnadslinjen **(Postgraduate Diploma in [field])** is not officially covered in the new reform, although some institutions may continue to award this degree. Admission to the program requires completion of a degree, usually in a related field, and the program consists of advanced or specialized courses in the specific field. The *bevis* (certificate) may be awarded upon completion of the course or program, and points vary.

***Kandidatexamen (field)* (Bachelor of [field])** requires at least 120 points with 60 points in the major subject and a 10-point thesis. The degree conferred may also be the *Filosofie Kandidatexamen* or may be in a specific area such as *Ekonomie Kandidatexamen* (economics), *Teknologie Kandidatexamen* (engineering), or *Politices Kandidatexamen* (public administration).

***Magisterexamen (field)* (Master of [field])** requires at least 160 points with 80 points in the major subject and one 20-point thesis or two 10-point theses. Degrees conferred may also be the *Filosofie Magisterexamen* or may be in a specific area such as *Ekonomie Magisterexamen* (economics), *Teknologie Magisterexamen* (engineering), *Farmacie Magisterexamen* (pharmacy), or *Politices Magisterexamen* (public administration).

Professional credentials awarded:

Professional credentials for the 42 professional degrees, translated as University Diploma in (field), vary from 40 to 220 points, with admission requirements and length of program determining the level of the degree (see Chapter 5 for degree names in professional fields). Both a professional degree and a general degree may be awarded for the same program if all requirements have been met for both degrees.

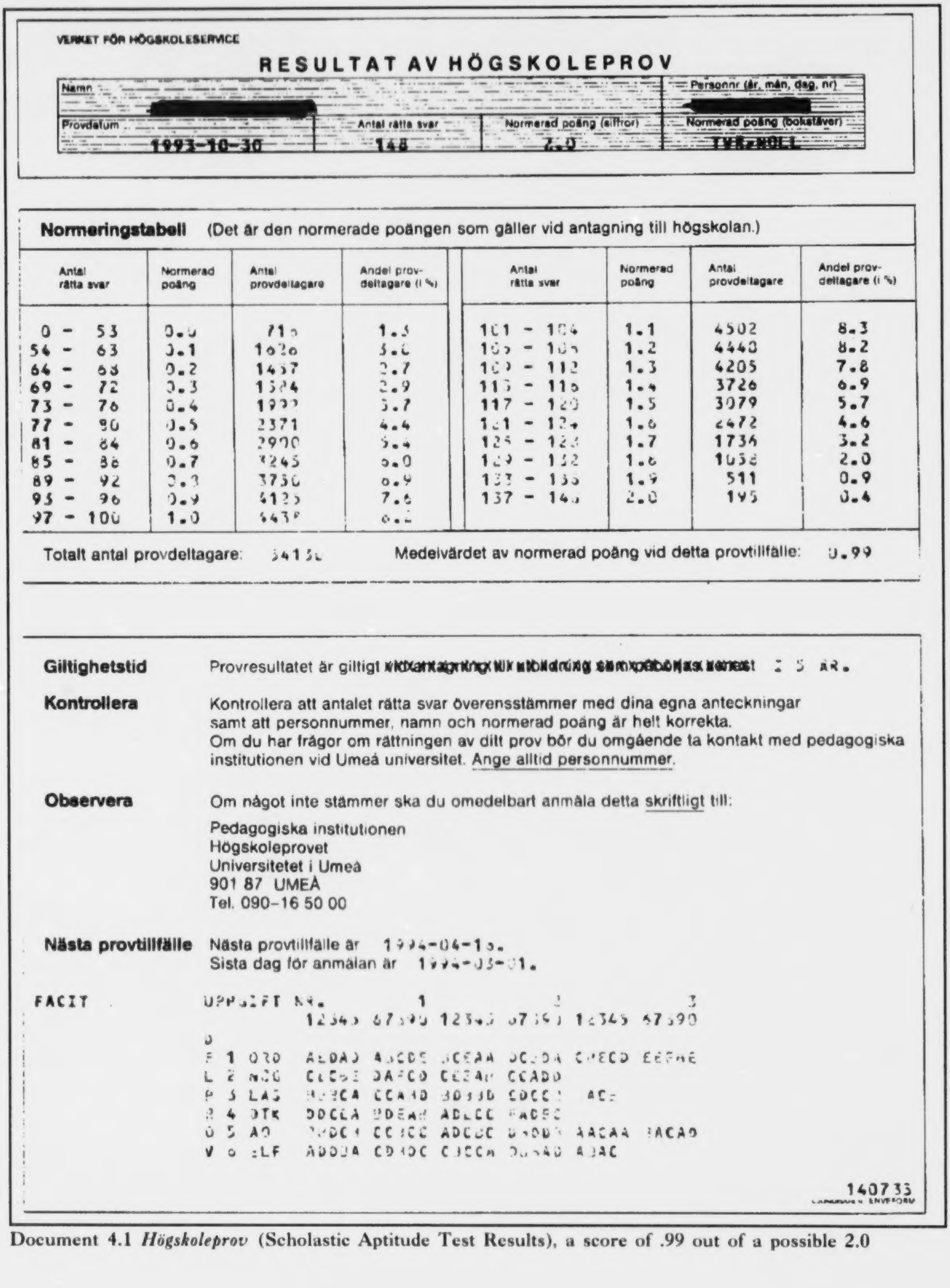
Credentials Remaining Unchanged

The following advanced degrees did not change with the Reform of 1993:

Master of Arts/Science is offered in many fields. The program is primarily for students who completed secondary studies or the first university level degree outside of Sweden. The 1.5-year, 60-point program includes a thesis. Programs provide preparation for more advanced degrees. The degree is only awarded in English.

***Licentiatexamen* (Licentiate in/of [field])** requires 80 points beyond the first degree and includes a thesis.

***Doktorsexamen* (Doctor of Philosophy [field])** requires 160 points beyond the first degree and includes a dissertation.



VERKET FÖR HÖGSKOLESERVICE

RESULTAT AV HÖGSKOLEPROV

Namn [redacted]			Personnr (år, mån, dag, nr) [redacted]
Provdatum 1993-10-30	Antal rätta svar 148	Normerad poäng (siffror) 2.0	Normerad poäng (bokstäver) TVÅ,NOLL

Normeringstabell (Det är den normerade poängen som gäller vid antagning till högskolan.)

Antal rätta svar	Normerad poäng	Antal provdeltagare	Andel provdeltagare (i %)	Antal rätta svar	Normerad poäng	Antal provdeltagare	Andel provdeltagare (i %)
0 - 53	0.0	715	1.3	101 - 104	1.1	4502	8.3
54 - 63	0.1	1626	3.0	105 - 108	1.2	4440	8.2
64 - 68	0.2	1457	2.7	109 - 112	1.3	4205	7.8
69 - 72	0.3	1584	2.9	113 - 116	1.4	3726	6.9
73 - 76	0.4	1999	3.7	117 - 120	1.5	3079	5.7
77 - 80	0.5	2371	4.4	121 - 124	1.6	2472	4.6
81 - 84	0.6	2990	5.4	125 - 128	1.7	1736	3.2
85 - 88	0.7	3245	6.0	129 - 132	1.8	1058	2.0
89 - 92	0.8	3750	6.9	133 - 136	1.9	511	0.9
93 - 96	0.9	4125	7.6	137 - 148	2.0	195	0.4
97 - 100	1.0	4438	8.2				

Totalt antal provdeltagare: 54136 Medelvärdet av normerad poäng vid detta provtillfälle: 0.99

Giltighetstid Provresultatet är giltigt ~~vid antagning till utbildning som påbörjas senast~~ I 5 ÅR.

Kontrollera Kontrollera att antalet rätta svar överensstämmer med dina egna anteckningar samt att personnummer, namn och normerad poäng är helt korrekta. Om du har frågor om rättningen av ditt prov bör du omgående ta kontakt med pedagogiska institutionen vid Umeå universitet. Ange alltid personnummer.

Observera Om något inte stämmer ska du omedelbart anmäla detta skriftligt till:

Pedagogiska institutionen
Högskoleprovet
Universitetet i Umeå
901 87 UMEÅ
Tel. 090-16 50 00

Nästa provtillfälle Nästa provtillfälle är 1994-04-16.
Sista dag för anmälan är 1994-03-01.

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FACIT          UPPGIFT NR.      1           2           3
                          12345 67890 12345 67890 12345 67890
               D
               E 1 ORD    ALDAD ABCDE BCEAA DCBDA CAECD EEFAE
               L 2 NOG    CLCBE DAFCD CEEAB CCADD
               P 3 LAS    BEBCA CCABD BDBBD CDCCB  ACE
               R 4 DTK    DDCEA BDEAB ADECC FADEC
               O 5 AO     BBDCB CCBCC ADCBC DBBDB AACAA BACAD
               V 6 ELF    ADDBA CDBDC CBCCA DBBAD ABAC
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140735
LANSBURG & ENVEFORM

Document 4.1 *Högskoleprov* (Scholastic Aptitude Test Results), a score of .99 out of a possible 2.0

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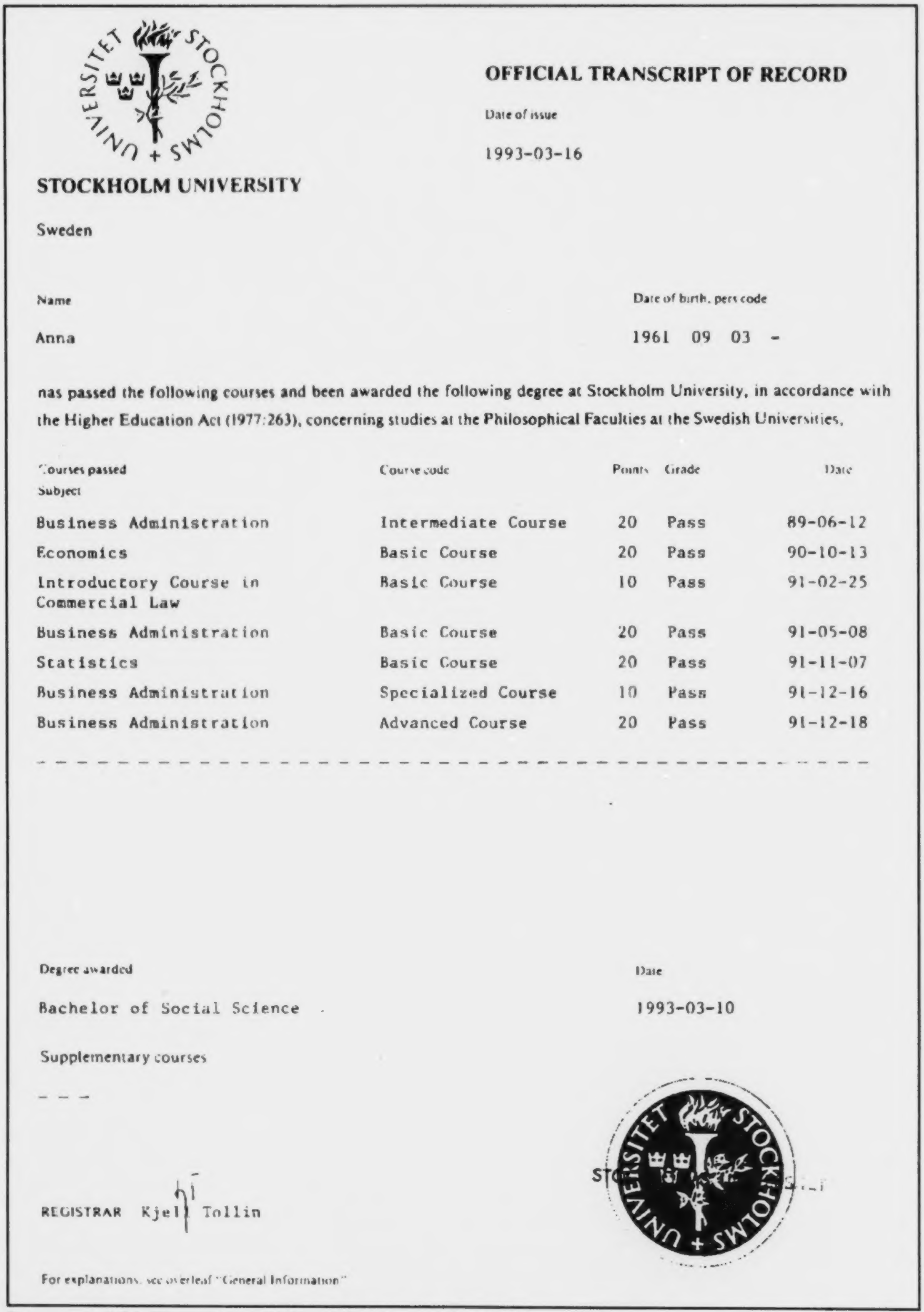


STOCKHOLM UNIVERSITY

Sweden

OFFICIAL TRANSCRIPT OF RECORD

Date of issue

1993-03-16

Name

Anna

Date of birth, pers code

1961 09 03 -

has passed the following courses and been awarded the following degree at Stockholm University, in accordance with the Higher Education Act (1977:263), concerning studies at the Philosophical Faculties at the Swedish Universities.

Courses passed Subject	Course code	Points	Grade	Date
Business Administration	Intermediate Course	20	Pass	89-06-12
Economics	Basic Course	20	Pass	90-10-13
Introductory Course in Commercial Law	Basic Course	10	Pass	91-02-25
Business Administration	Basic Course	20	Pass	91-05-08
Statistics	Basic Course	20	Pass	91-11-07
Business Administration	Specialized Course	10	Pass	91-12-16
Business Administration	Advanced Course	20	Pass	91-12-18

Degree awarded

Bachelor of Social Science

Date

1993-03-10

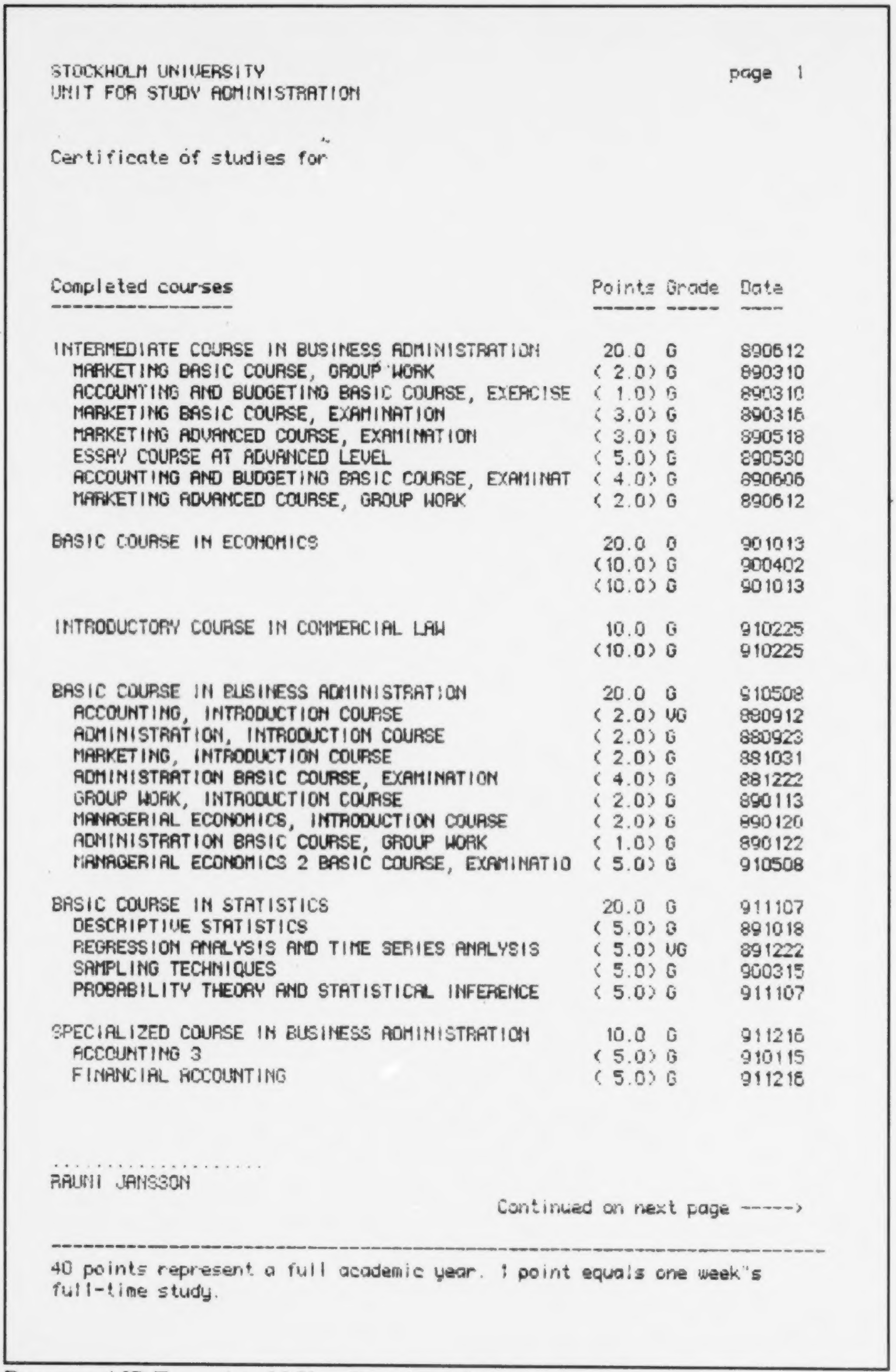
Supplementary courses

– – –

REGISTRAR Kjell Tollin

For explanations, see overleaf "General Information"

Document 4.2A Transcript of 3-Year Bachelor of Social Science Degree



STOCKHOLM UNIVERSITY
UNIT FOR STUDY ADMINISTRATION

page 1

Certificate of studies for

Completed courses	Points	Grade	Date
INTERMEDIATE COURSE IN BUSINESS ADMINISTRATION	20.0	G	890612
MARKETING BASIC COURSE, GROUP WORK	(2.0)	G	890310
ACCOUNTING AND BUDGETING BASIC COURSE, EXERCISE	(1.0)	G	890310
MARKETING BASIC COURSE, EXAMINATION	(3.0)	G	890316
MARKETING ADVANCED COURSE, EXAMINATION	(3.0)	G	890518
ESSAY COURSE AT ADVANCED LEVEL	(5.0)	G	890530
ACCOUNTING AND BUDGETING BASIC COURSE, EXAMINAT	(4.0)	G	890606
MARKETING ADVANCED COURSE, GROUP WORK	(2.0)	G	890612
BASIC COURSE IN ECONOMICS	20.0	G	901013
	(10.0)	G	900402
	(10.0)	G	901013
INTRODUCTORY COURSE IN COMMERCIAL LAW	10.0	G	910225
	(10.0)	G	910225
BASIC COURSE IN BUSINESS ADMINISTRATION	20.0	G	910508
ACCOUNTING, INTRODUCTION COURSE	(2.0)	VG	880912
ADMINISTRATION, INTRODUCTION COURSE	(2.0)	G	880923
MARKETING, INTRODUCTION COURSE	(2.0)	G	881031
ADMINISTRATION BASIC COURSE, EXAMINATION	(4.0)	G	881222
GROUP WORK, INTRODUCTION COURSE	(2.0)	G	890113
MANAGERIAL ECONOMICS, INTRODUCTION COURSE	(2.0)	G	890120
ADMINISTRATION BASIC COURSE, GROUP WORK	(1.0)	G	890122
MANAGERIAL ECONOMICS 2 BASIC COURSE, EXAMINATIO	(5.0)	G	910508
BASIC COURSE IN STATISTICS	20.0	G	911107
DESCRIPTIVE STATISTICS	(5.0)	G	891018
REGRESSION ANALYSIS AND TIME SERIES ANALYSIS	(5.0)	VG	891222
SAMPLING TECHNIQUES	(5.0)	G	900315
PROBABILITY THEORY AND STATISTICAL INFERENCE	(5.0)	G	911107
SPECIALIZED COURSE IN BUSINESS ADMINISTRATION	10.0	G	911216
ACCOUNTING 3	(5.0)	G	910115
FINANCIAL ACCOUNTING	(5.0)	G	911216

....
RAUNI JANSSON

Continued on next page ---->

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40 points represent a full academic year. 1 point equals one week's full-time study.

Document 4.2B Transcript of 3-Year Bachelor of Social Science Degree

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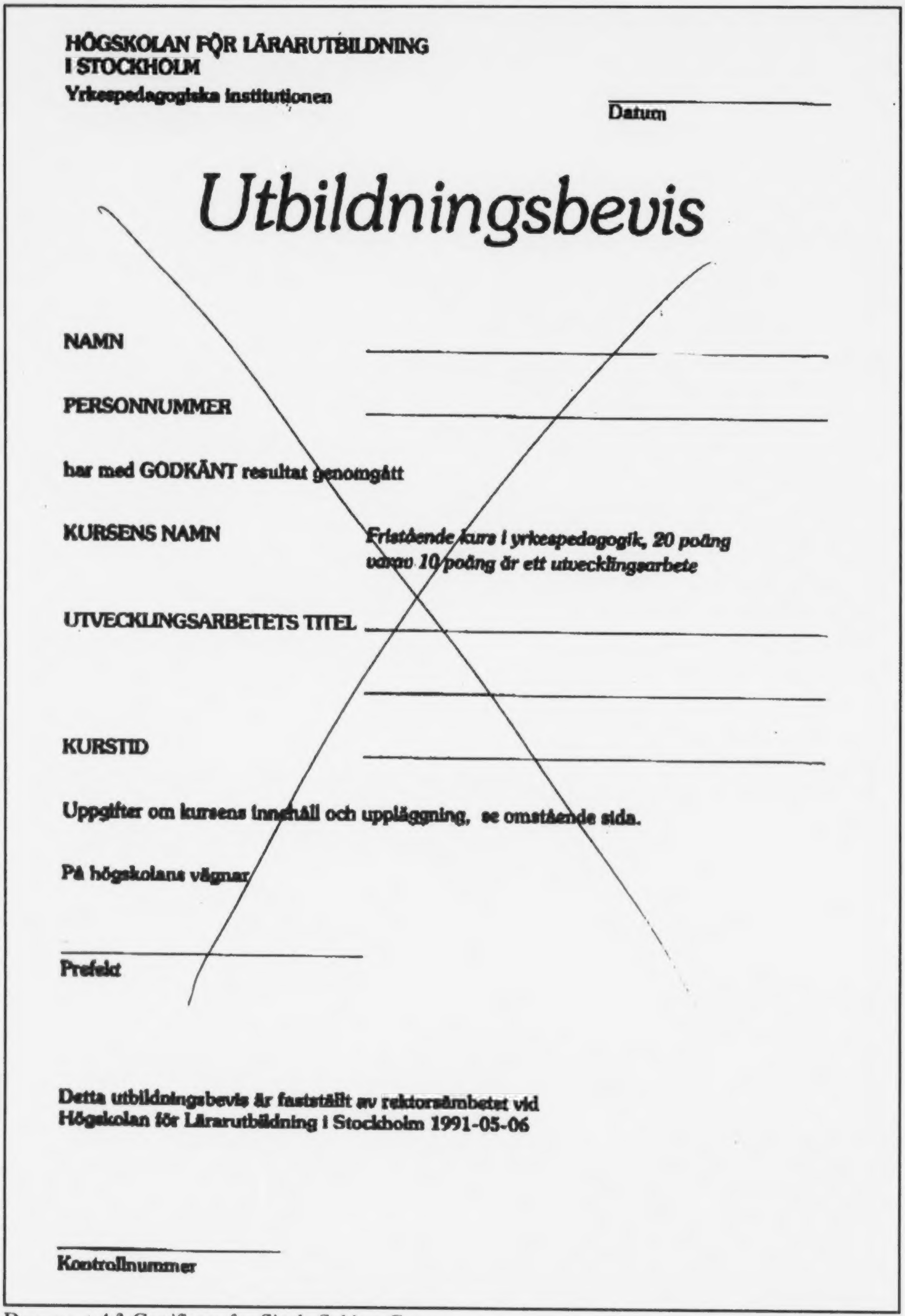

HÖGSKOLAN FÖR LÄRARUTBILDNING
I STOCKHOLM
Yrkespedagogiska institutionen

Datum

Utbildningsbevis

NAMN

PERSONNUMMER

har med GODKÄNT resultat genomgått

KURSENS NAMN ***Fristående kurs i yrkespedagogik, 20 poäng varav 10 poäng är ett utvecklingsarbete***

UTVECKLINGSARBETETS TITEL

KURSTID

Uppgifter om kursens innehåll och uppläggning, se omstående sida.

På högskolans vägnar

Prefekt

Detta utbildningsbevis är fastställt av rektorsämbetet vid
Högskolan för Lärarutbildning i Stockholm 1991-05-06

Kontrollnummer

Document 4.3 Certificate for Single-Subject Course

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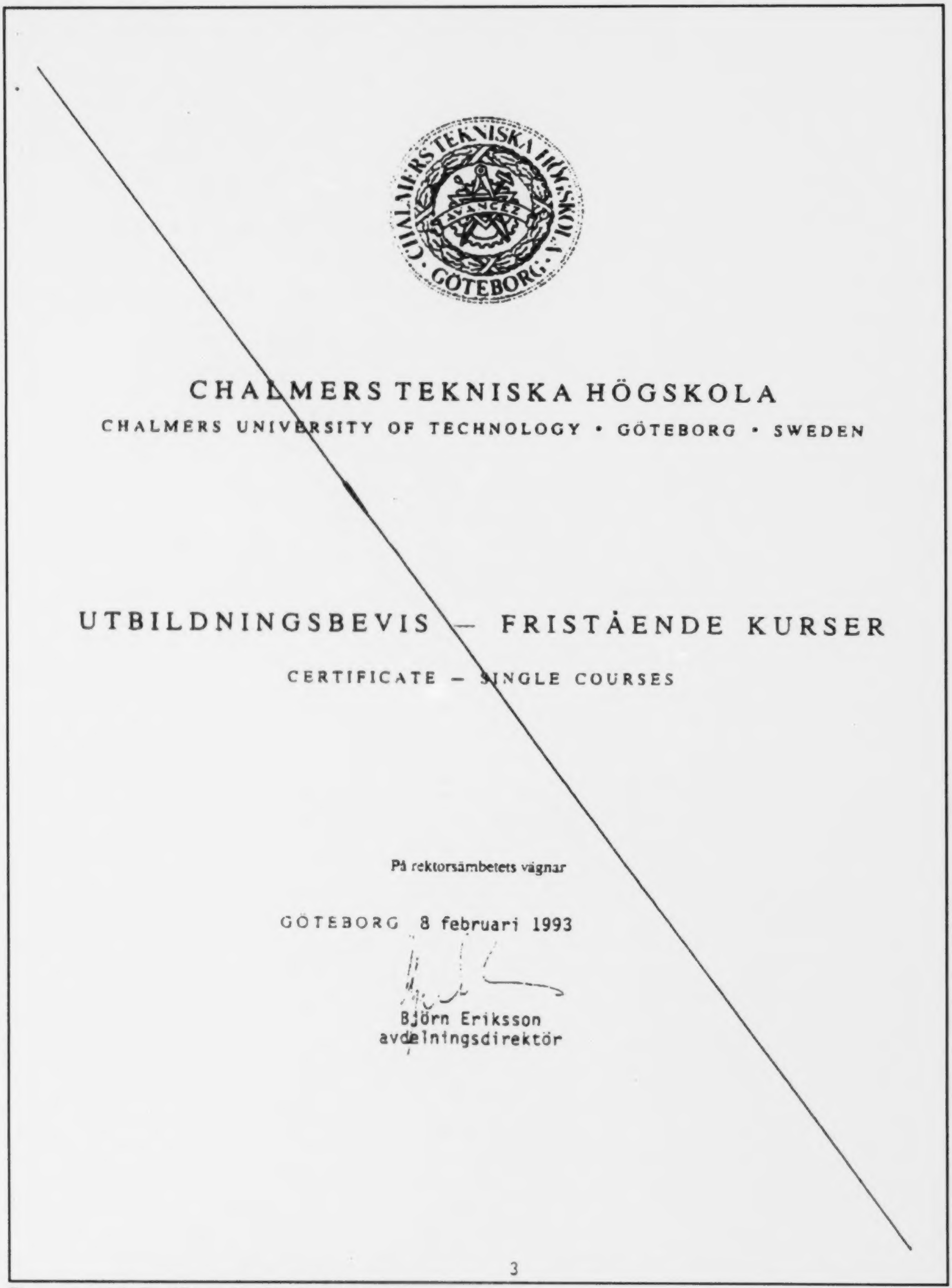

CHALMERS TEKNISKA HÖGSKOLA

CHALMERS UNIVERSITY OF TECHNOLOGY • GÖTEBORG • SWEDEN

UTBILDNINGSBEVIS — FRISTÅENDE KURSER

CERTIFICATE — SINGLE COURSES

På rektorsämbetets vägnar

GÖTEBORG 8 februari 1993

Björn Eriksson
avdelningsdirektör

3

Document 4.4 Certificate for Single-Subject Courses

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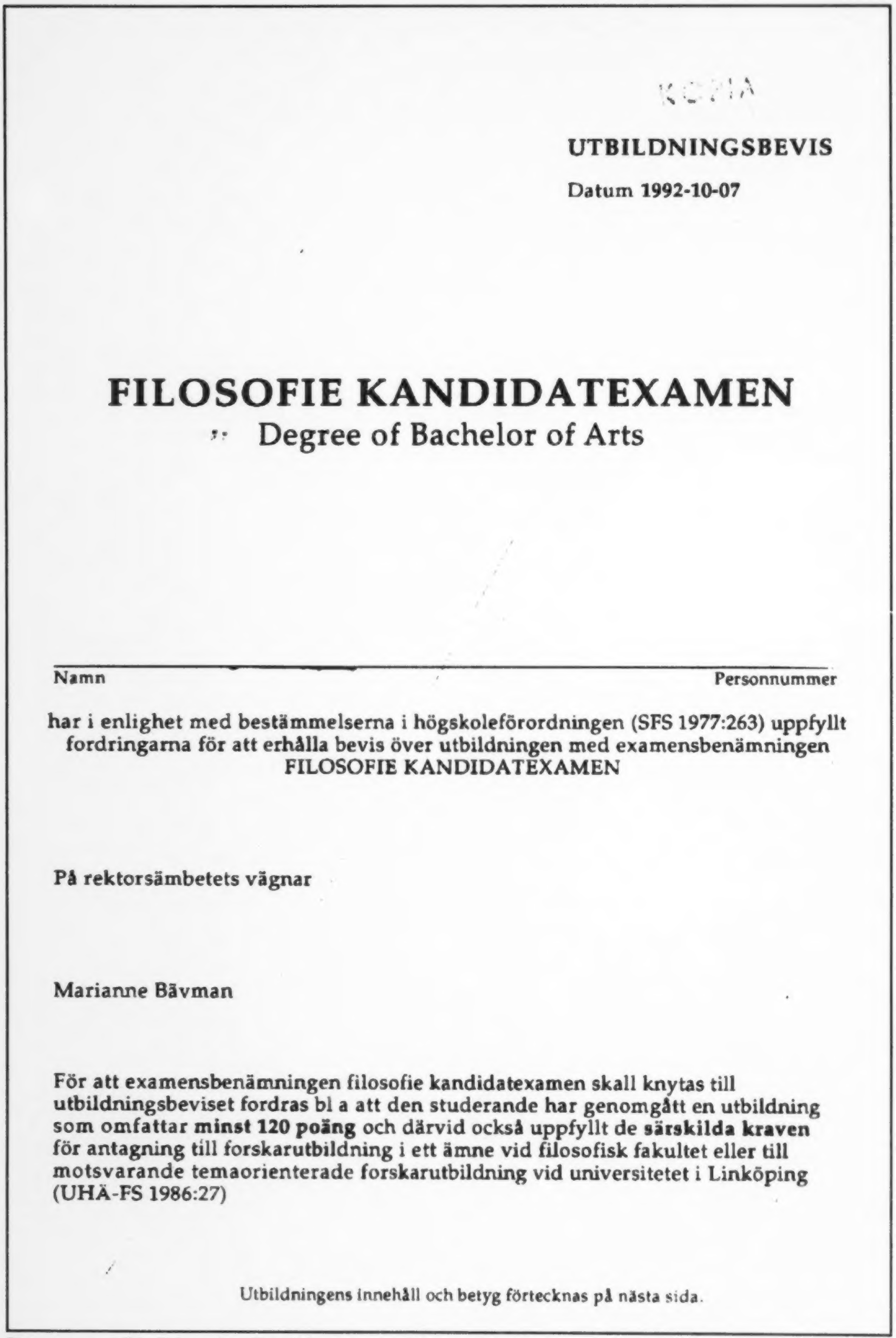


KOPIA

UTBILDNINGSBEVIS

Datum **1992-10-07**

FILOSOFIE KANDIDATEXAMEN

Degree of Bachelor of Arts

Namn **Personnummer**

har i enlighet med bestämmelserna i högskoleförordningen (SFS 1977:263) uppfyllt fordringarna för att erhålla bevis över utbildningen med examensbenämningen FILOSOFIE KANDIDATEXAMEN

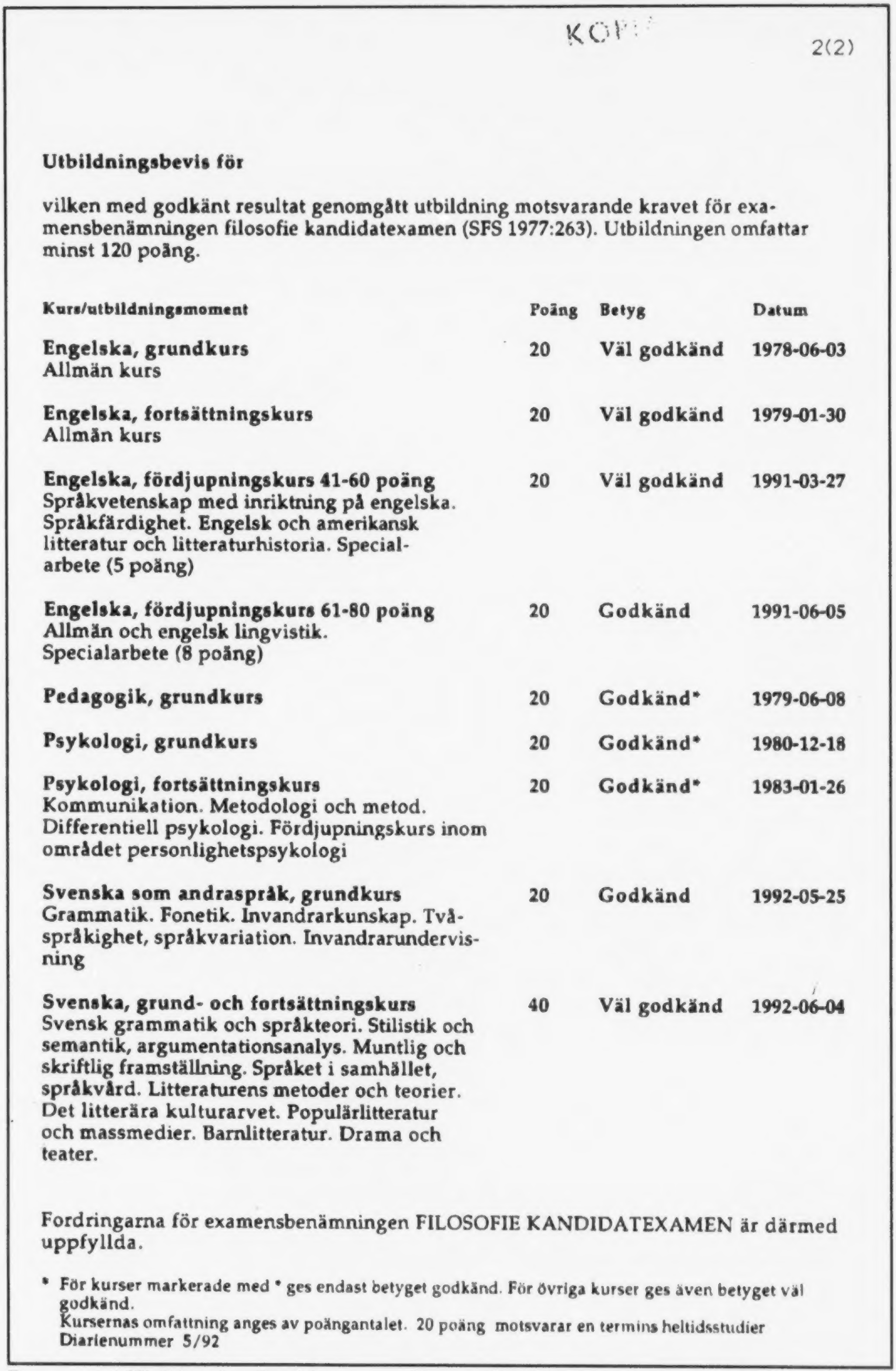
På rektorsämbetets vägnar

Marianne Bävman

För att examensbenämningen filosofie kandidatexamen skall knytas till utbildningsbeviset fordras bl a att den studerande har genomgått en utbildning som omfattar minst 120 poäng och därvid också uppfyllt de särskilda kraven för antagning till forskarutbildning i ett ämne vid filosofisk fakultet eller till motsvarande temaorienterade forskarutbildning vid universitetet i Linköping (UHÄ-FS 1986:27)

Utbildningens innehåll och betyg förtecknas på nästa sida.

Document 4.5A *Filosophie Kandidatexamen* (Degree Certificate; Bachelor of Arts)



KOP

2(2)

Utbildningsbevis för

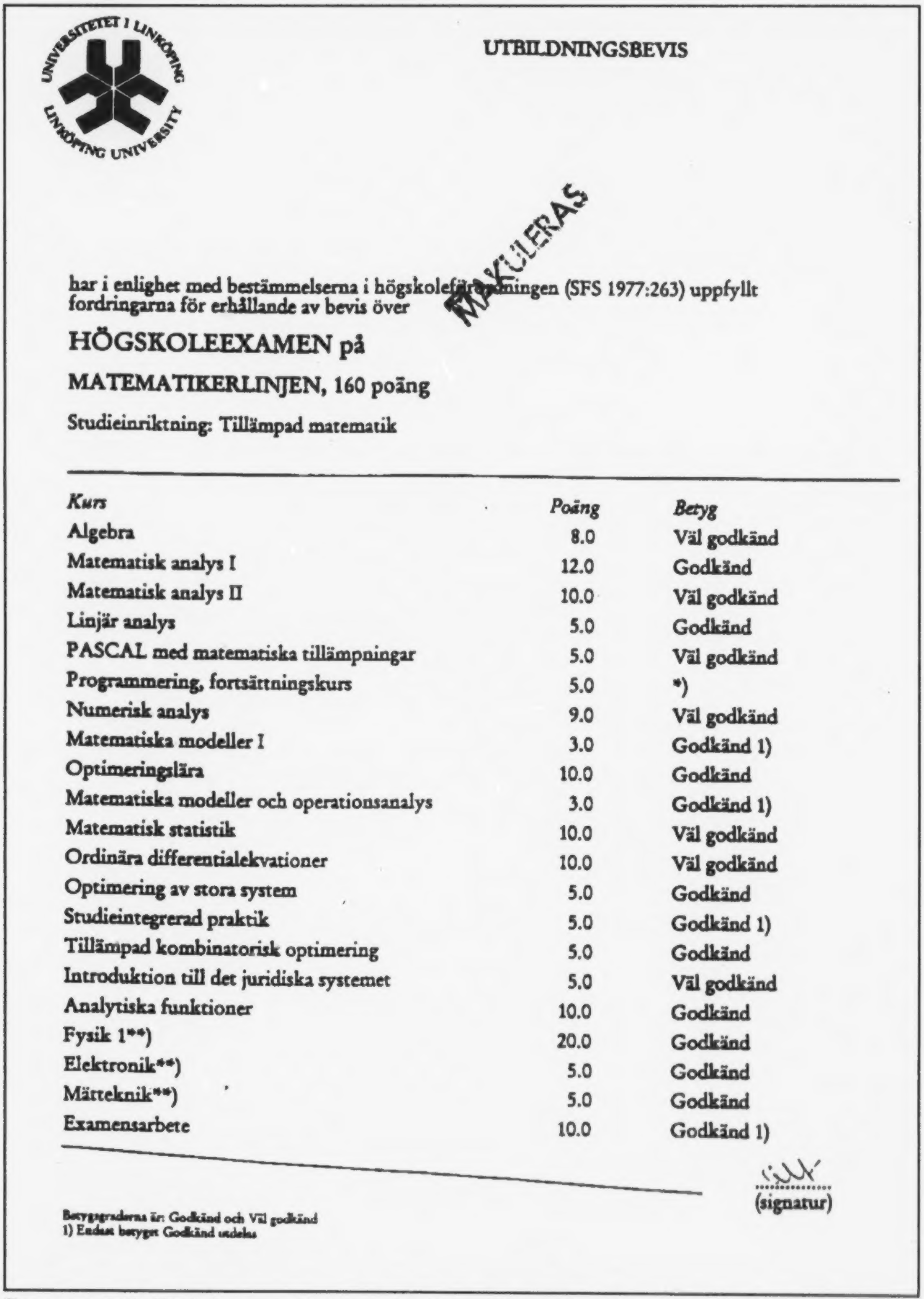
vilken med godkänt resultat genomgått utbildning motsvarande kravet för examensbenämningen filosofie kandidatexamen (SFS 1977:263). Utbildningen omfattar minst 120 poäng.

Kurs/utbildningsmoment	**Poäng**	**Betyg**	**Datum**
Engelska, grundkurs Allmän kurs	20	Väl godkänd	1978-06-03
Engelska, fortsättningskurs Allmän kurs	20	Väl godkänd	1979-01-30
Engelska, fördjupningskurs 41-60 poäng Språkvetenskap med inriktning på engelska. Språkfärdighet. Engelsk och amerikansk litteratur och litteraturhistoria. Specialarbete (5 poäng)	20	Väl godkänd	1991-03-27
Engelska, fördjupningskurs 61-80 poäng Allmän och engelsk lingvistik. Specialarbete (8 poäng)	20	Godkänd	1991-06-05
Pedagogik, grundkurs	20	Godkänd*	1979-06-08
Psykologi, grundkurs	20	Godkänd*	1980-12-18
Psykologi, fortsättningskurs Kommunikation. Metodologi och metod. Differentiell psykologi. Fördjupningskurs inom området personlighetspsykologi	20	Godkänd*	1983-01-26
Svenska som andraspråk, grundkurs Grammatik. Fonetik. Invandrarkunskap. Tvåspråkighet, språkvariation. Invandrarundervisning	20	Godkänd	1992-05-25
Svenska, grund- och fortsättningskurs Svensk grammatik och språkteori. Stilistik och semantik, argumentationsanalys. Muntlig och skriftlig framställning. Språket i samhället, språkvård. Litteraturens metoder och teorier. Det litterära kulturarvet. Populärlitteratur och massmedier. Barnlitteratur. Drama och teater.	40	Väl godkänd	1992-06-04

Fordringarna för examensbenämningen FILOSOFIE KANDIDATEXAMEN är därmed uppfyllda.

* För kurser markerade med * ges endast betyget godkänd. För övriga kurser ges även betyget väl godkänd.
Kursernas omfattning anges av poängantalet. 20 poäng motsvarar en termins heltidsstudier
Diarienummer 5/92

Document 4.5B *Filosophie Kandidatexamen* (Degree Certificate; Bachelor of Arts)



UNIVERSITETET I LINKÖPING
LINKÖPING UNIVERSITY

UTBILDNINGSBEVIS

MAKULERAS

har i enlighet med bestämmelserna i högskoleförordningen (SFS 1977:263) uppfyllt fordringarna för erhållande av bevis över

HÖGSKOLEEXAMEN på

MATEMATIKERLINJEN, 160 poäng

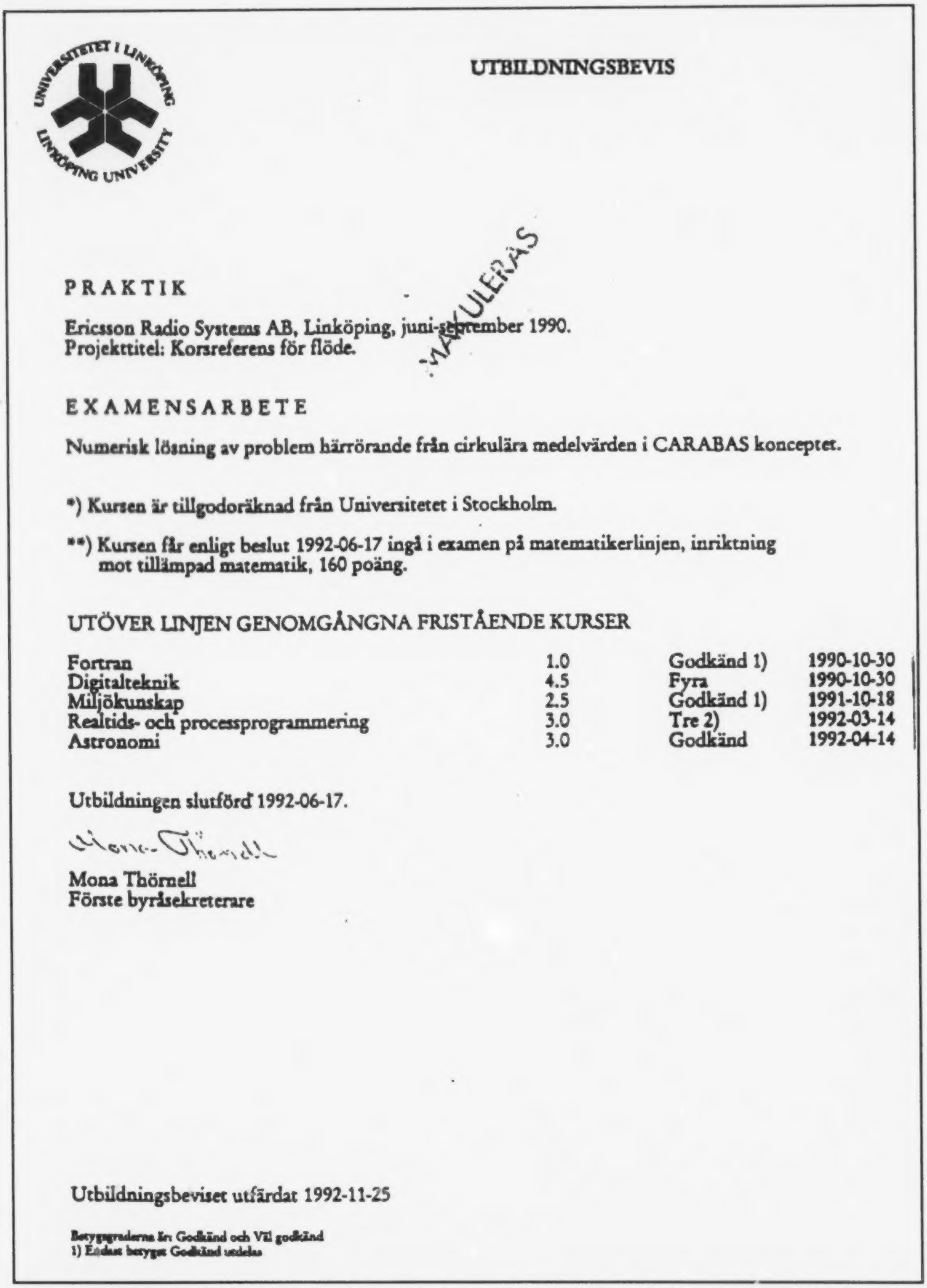
Studieinriktning: Tillämpad matematik

Kurs	*Poäng*	*Betyg*
Algebra	8.0	Väl godkänd
Matematisk analys I	12.0	Godkänd
Matematisk analys II	10.0	Väl godkänd
Linjär analys	5.0	Godkänd
PASCAL med matematiska tillämpningar	5.0	Väl godkänd
Programmering, fortsättningskurs	5.0	*)
Numerisk analys	9.0	Väl godkänd
Matematiska modeller I	3.0	Godkänd 1)
Optimeringslära	10.0	Godkänd
Matematiska modeller och operationsanalys	3.0	Godkänd 1)
Matematisk statistik	10.0	Väl godkänd
Ordinära differentialekvationer	10.0	Väl godkänd
Optimering av stora system	5.0	Godkänd
Studieintegrerad praktik	5.0	Godkänd 1)
Tillämpad kombinatorisk optimering	5.0	Godkänd
Introduktion till det juridiska systemet	5.0	Väl godkänd
Analytiska funktioner	10.0	Godkänd
Fysik 1**)	20.0	Godkänd
Elektronik**)	5.0	Godkänd
Mätteknik**)	5.0	Godkänd
Examensarbete	10.0	Godkänd 1)

(signatur)

Betygsgraderna är: Godkänd och Väl godkänd
1) Endast betyget Godkänd utdelas

Document 4.6A *Högskoleexamen på Matematikerlinjen* (Degree Certificate for 4-Year Program; Master of Science in Mathematics)



UNIVERSITETET I LINKÖPING
LINKÖPING UNIVERSITY

UTBILDNINGSBEVIS

MAKULERAS

PRAKTIK

Ericsson Radio Systems AB, Linköping, juni-september 1990.
Projekttitel: Korsreferens för flöde.

EXAMENSARBETE

Numerisk lösning av problem härrörande från cirkulära medelvärden i CARABAS konceptet.

*) Kursen är tillgodoräknad från Universitetet i Stockholm.

**) Kursen får enligt beslut 1992-06-17 ingå i examen på matematikerlinjen, inriktning mot tillämpad matematik, 160 poäng.

UTÖVER LINJEN GENOMGÅNGNA FRISTÅENDE KURSER

Fortran	1.0	Godkänd 1)	1990-10-30
Digitalteknik	4.5	Fyra	1990-10-30
Miljökunskap	2.5	Godkänd 1)	1991-10-18
Realtids- och processprogrammering	3.0	Tre 2)	1992-03-14
Astronomi	3.0	Godkänd	1992-04-14

Utbildningen slutförd 1992-06-17.

Mona Thörnell

Mona Thörnell
Förste byråsekreterare

Utbildningsbeviset utfärdat 1992-11-25

Betygsgraderna är: Godkänd och Väl godkänd
1) Endast betyget Godkänd utdelas

Document 4.6B *Högskoleexamen på Matematikerlinjen* (Transcript for 4-Year Program; Master of Science in Mathematics)

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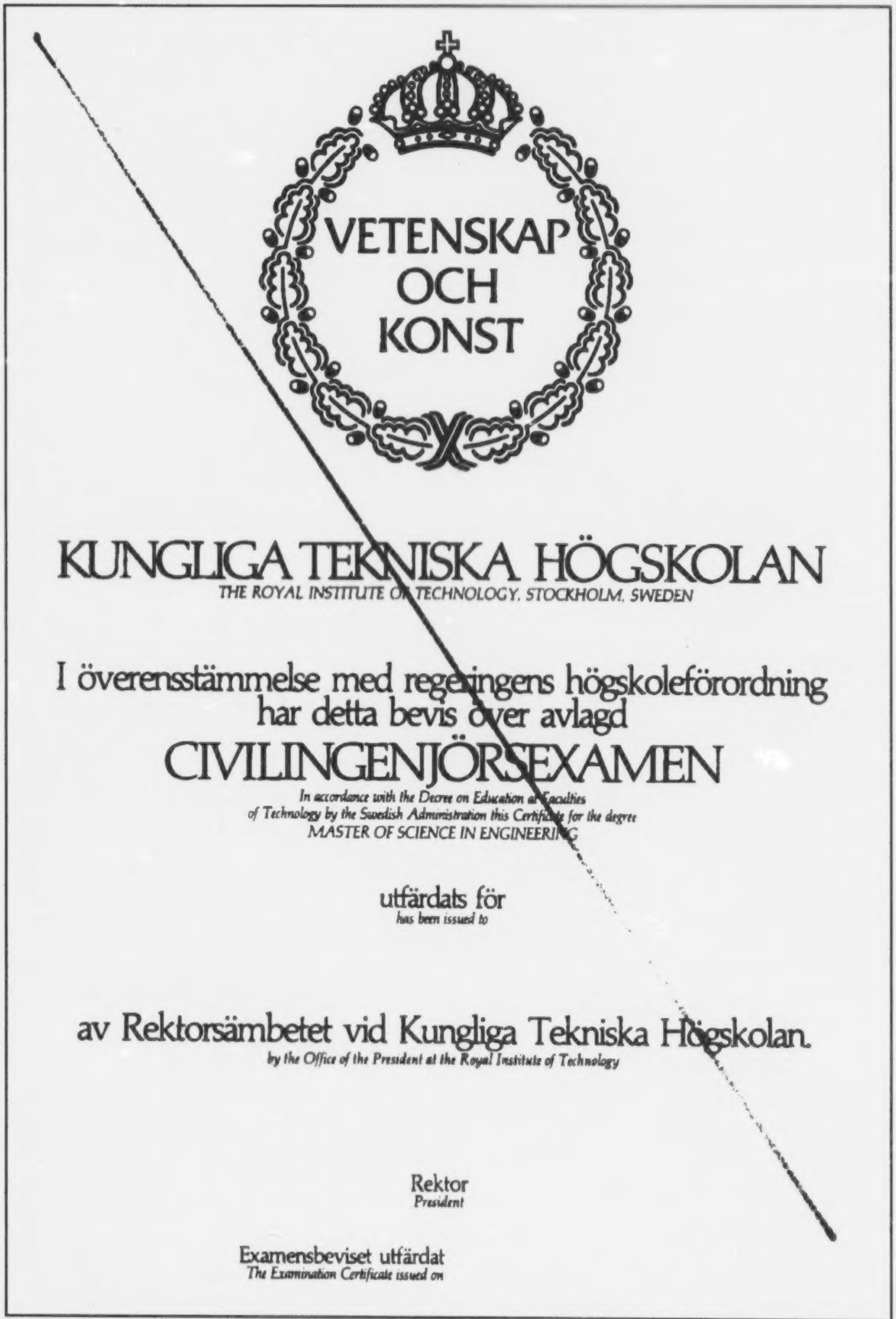

VETENSKAP
OCH
KONST

KUNGLIGA TEKNISKA HÖGSKOLAN
THE ROYAL INSTITUTE OF TECHNOLOGY, STOCKHOLM, SWEDEN

I överensstämmelse med regeringens högskoleförordning
har detta bevis över avlagd
CIVILINGENJÖRSEXAMEN
In accordance with the Decree on Education at Faculties
of Technology by the Swedish Administration this Certificate for the degree
MASTER OF SCIENCE IN ENGINEERING

utfärdats för
has been issued to

av Rektorsämbetet vid Kungliga Tekniska Högskolan.
by the Office of the President at the Royal Institute of Technology

Rektor
President

Examensbeviset utfärdat
The Examination Certificate issued on

Document 4.7 *Civilingenjörsexamen* (Professional Degree Certificate; Master of Science in Engineering)

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Chapter 5
Specialized Education Programs

Agriculture

Formal agricultural education began in 1775 with the establishment of the Veterinary Institute at Skara and was followed by institutes devoted to forestry (1828) and agriculture (1849). By the late nineteenth century, there were educational institutions and research institutes throughout the country. In 1977 all units were integrated into the Swedish University of Agricultural Sciences/SUAS (*Sveriges Lantbruksuniversitet*), with a main campus and administrative center in Uppsala and branch campuses for education and/or research at other locations throughout Sweden. Agricultural education is part of the Ministry of Agriculture, and SUAS is the only tertiary level educational institution not directed by the Ministry of Education and Science.

Professional Programs

The 4- to 5.5-year first degree programs are offered in the fields of agriculture, forestry, horticulture, landscape architecture, and veterinary medicine. There are also free-standing courses that are offered not only to students outside ordinary programs but also to professionals in the field.

In addition to the general requirements for admission, the 4- to 5-year programs require 3 years of mathematics, physics, and chemistry and 2 years of biology from a 3/4-year theoretical program in upper secondary school or the equivalent.

The curriculum for each program and the special admission requirements are determined by each program board, composed of 12 to 15 persons representing in equal numbers teachers, students, and either the public sector or labor unions. Students in most programs study one or two subjects during the specified period of time, i.e., 5 weeks for a 5-point course, and then go on to the next course. Future courses will be more consolidated with higher point values.

Examinations are written and/or oral. They take place at least twice during the course. Examinations are also given at the beginning and end of each term in each course for those students who did not sit for or pass the examinations. A student who applies at least 3 days prior to the date is allowed to sit for the exam. There is no final, comprehensive exam for the entire program.

All programs formerly required a special practice period that varied according to department. It gave the student the opportunity to make use of the knowledge in practical situations in placements that were approved by the department. Beginning in 1993 this requirement was dropped. A final 10- to 20-point project must be completed in the major subject area, which must demonstrate an ability for independent thought, and be in written form with an oral presentation.

In addition to the specialized degrees awarded for professional programs, students may also receive the *Kandidatexamen* (Bachelor of [field]) if the degree includes at least 120 points with 60 points in the major subject, or *Magisterexamen* (Master of [field]) if the degree includes at least 160 points with 80 points in the major subject.

Agriculture (*Agronom*): The 4.5-year, 180-point program has replaced the 5-year, 200-point program. Both consist of an introductory course in agricultural sciences (10 points, but 40 points for the 5-year program), coursework (at least 140), 12 weeks of special practical experience (10), and the thesis (10). Students may specialize in one of six branches: agricultural engineering, animal science, biotechnology, economics, food science, and soil/plant science. Many students also choose an environmental emphasis. All branches lead to the *Agrononomexamen* (until July 1993 translated as Master of Science in Agriculture; thereafter, University Diploma in Agriculture).

The first year in all branches consists of 4 weeks of introductory courses, 20 weeks of theoretical training in applied agricultural subjects, and 25 weeks of practical work experience.

The Animal Sciences (*Husdjur*) program provides broad biological orientation and coursework in the applied area as follows:

Year 2- mathematics (2 points), chemistry (16), molecular biology (3), microbiology (5), anatomy (2), metabology (5)

Year 3- ethology (5), statistics (10), genetics and animal breeding theory (29), animal phys. (15)

Year 4- feed science and animal nutrition (10), pig production (5), poultry production (4), cattle and sheep production (12), seminar course (5), thesis (10), and courses chosen from the following subjects: fur animals, horse-goat-reindeer and wild animals, fish farming, study tour and also project advanced courses in animal sciences; food chemistry, food microbiology, milk and meat sciences, biotechnology; economics, crops, farm buildings, agricultural engineering; pedagogics, extension service, tropical agriculture.

Economics (*Ekonomi*): offers specialization in such areas as business economics and management, farm management and production economics, agricultural marketing or organization, resource and structure economics, agricultural economics, or international trade.

Year 2- mathematics (5 points), introduction (5), business management (5), economics (15), data processing (5)

Year 3- basic accounting (5), tax planning (5), statistics (10), civil law (5), marketing (5), cost/income analysis (5), agricultural policy (5)

Year 4- planning of the agricultural firm (10), cooperatives (5), marketing (5), international trade (5), regional economics (5), seminar (5), administration (5), regional economics (5), forestry (5), tropical agriculture (5), pedagogics (5), environmental law (5), thesis (10).

Additional courses that may be taken are: crops, animal sciences, farm buildings, agricultural engineering, pedagogics and extension, and tropical agriculture.

Biotechnology (*Bioteknik*): introduced in 1988-1989 with specialization in animals or plants.

Year 2- mathematics (2 points), chemistry (16), isotope technique (3), biochemistry (10)

Year 3- cell biology (10), microbiology (10), molecular genetics (10), gene technology (10)

Year 4- (Specialization) Plant Sciences: genetics (5), crop production science, review course (6), plant physiology (10), immunology (5), cultivation of bacteria (5), plant pathology (10), data methods (5), statistics (5), plant breeding (10), seminar course (5), thesis (10). (Specialization) Animal Sciences: data methods (5), genetics and animal breeding, basic course (10), statistics (10), animal physiology and anatomy (15), feed science and animal nutrition (10), seminar course (5), pig production (6), immunology (5), cattle and sheep production (6-12), thesis (10).

Food Sciences (*Livsmedel*): introduced in 1988-1989 and involves the study of both animal products and vegetables.

Year 2- mathematics (2 points), chemistry (16), isotope technology (3), biochemistry (10)

Year 3- cell biology (10), microbiology (10), food microbiology (10), food chemistry (10)

Year 4- statistics (5), crop production sciences, review course (5), plant physiology (10), animal science, review course (5), animal physiology and anatomy (15), human nutrition (5), science of plant products (10), meat science (5), dairy science (5), seminary course (5), thesis (10).

Soil/Plant Science (*Mark/Växter*): concentrates on the study of plants and plant production in the area of cultivation with specialization in techniques, plant protection, plant breeding, and environmental and natural resources.

Year 2- mathematics (2 points), chemistry (16), molecular biology (3), statistics (5), botany (5), meteorology (2), pedology (3)

Year 3- ecology (5), plant physiology (10), microbiology (5), soil science (10), drain and irrigation (5), plant pathology (9)

Year 4- plant pathology (10), crop production science (16), statistics (5), soil management (5), plant nutrition (5), crop rotation (4), seminar course (5), thesis (10).

Additional courses may be taken in ecology and environmental management, applied courses in the subjects above, and others in economics, animal science, food science, farm buildings, agricultural engineering, pedagogics and agricultural extension, and tropical agriculture.

Engineering (*Teknik*): the first year of the program emphasizes technical solutions to biological problems and specialization in mechanical engineering, building engineering, and hydrotechnology.

The mechanical engineering line also offers courses in work and planning, machinery, and applied engineering. The building engineering line offers courses in building planning, the local animal environment, and building technology and production. The hydrotechnology line offers courses within hydrotechnology and soil sciences (for a sample program see Table 5.1 on the next page).

Principal Credentials Prior to 1993	Credentials As of July 1993
Agronomexamen (Master of Science in Agriculture) 180, 200 points	*Agronomexamen* (University Diploma in Agriculture) 180 points

Table 5.1 Agricultural Engineering Course List (1992, with points)

Courses	Mechanical Engineering	Building Engineering	Hydro-technology
Year 2			
Crop Production, Soil Preparation	5	5	5
Machinery, Planning, and Transportation	5	5	5
Mathematics	8	8	8
Physics, Engineering	11	11	11
Year 3			
Building Technology	5	5	5
Mechanics of Tractors	5		
Physics	5	5	5
Production and Harvest Technology	10	10	10
Strength of Materials	5	5	5
Structural Design		6	
Study Visit	1	1	1
Technical Drawing	5	5	5
Technology in Animal Production	5	5	5
Thermal Engineering	6	6	6
Year 4			
Automated Control Engineering	5	5	5
Drainage and Irrigation			5
Husbandry Environment		6	
Machine Parts	5		5
Mechanics of Tractors		5	
Microcomputers	5	5	5
Planning of Farm Building, Basics		11	
Soil Sciences, Basics			10
Statistics, Basics	8	6	
Year 5			
Applied Systems Analysis	10	5	
Applied Design		3	
Hydromechanics			6
Main Drainage			6
Planning of Farm Buildings		6	
Problems Involved in Agricultural Energy	5		5
Statistics, Basics			6
Technology Problems, Applied Design	6		
Thesis	10	10	10
Work Environment	4	4	4

Forestry (*Jägmästare*): This 5-year, 200-point program, leading to the *Jägmasterexamen* (Master of Science in Forestry until July 1993 and thereafter, University Diploma in Forestry), provides knowledge required for developing and managing the natural resources of the forest. It gives a basic view of ecology, the forest as an environmental factor, and the opportunity to specialize. The program formerly focused on a generalized education, but now contains more electives and specialization in a field. Completion of the degree provides entry into forest management, research, education and extension, processing of raw material, community planning, nature conservation, and support to developing countries.

The first term begins with 6 weeks of practical experience at a vocational forestry school followed by 12 weeks of placement in various forest companies. After the practice term, there are 2 years of basic courses followed by 2 years of advanced courses. The courses range from 1 to 10 weeks in length and are divided into blocks so that the students study only one subject a time. Each week involves at least 40 hours of combined lectures, self-study, and assignments.

The next 2 terms are spent at the Garpenberg campus taking basic courses and participating in outdoor training exercises and field excursions to forest companies, silvicultural and logging operations, nurseries, sawmills, and field research areas.

The remainder of the program is on the Umeå campus with a few students finishing their specialization at Uppsala. The studies include a 3-month summer excursion throughout Sweden, with field instruction on the various forestry conditions encountered from southern Sweden to north of the Arctic Circle in Lapland. Students are introduced to different concepts in forestry, variations in physiography, forest types, ownership structures, and approaches to management. During the following year, students select a specialization. Forest management, chosen by about 50% of the students, focuses on operations and the design and implementation of management plans. Marketing, selected by 25%, deals with business aspects of forestry and prepares a student for work with industry. Natural resources concentrates on the science of examining the biological basis of forest production. The economics option focuses on the theoretical approach to analysis and forecasting. Forest biology is the study of the purely biological aspects of forestry and the pursuit of research. These last two options have their final year at Uppsala. The program in forestry is as follows:

Term 1 Basic Course:

6 weeks of vocational study, 12 weeks of vocational placement, ecology (2 points), economics (11), legislation (1), soil science (8.5), statistics and computing (7), nature conservation (2), forest botany (9), forest entomology (3), forest genetics (2), silviculture (9), forest technology (9), inventory and management (13), wildlife ecology (3), wood technology (5.5), seminar (1).

Advanced Courses:

Economics- statistics and computing (13), economics (27), economics (at the University of Umeå) (25), language (5), staff development and communications (5).

Forest Biology- statistics (5), chemistry (8), forest botany (27), silviculture (7), forest genetics (8), forest site and soil science (17), flora and fauna (8).

Forest Management- statistics and computing (13), economics (12), inventory and management (8), silviculture (7), wood technology (10), forest technology (10), electives (15).

Marketing- statistics and computing (13), economics (22), marketing (15), forest products (11), organization (4), language, business English (10).

Natural Resources- statistics (5), economics (3), chemistry (8), forest botany (23), silviculture (7), forestry genetics (3), forest site and soil science (10), forestry history (4), electives (11).

All students are required to complete a final thesis (10) in the area of one of the advanced courses.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Jägmästarexamen (Master of Science in Forestry) 200 points	*Jägmästarexamen* (University Diploma in Forestry) 200 points

Horticulture (*Hortonom*): The 4.5-year, 180-point program, leading to the *Hortonomexamen* (Master of Science in Horticulture until July 1993 and thereafter University Diploma in Horticulture), replaced the 5-year, 200-point program in 1989. Both programs consist of an introductory course (15 points, but 40 points for the 5-year program), required courses (70), optional courses with a specialization in two subjects (75), and a thesis (20). The courses in mathematics and chemistry are taught at the University of Lund. The remainder of the program is taught at the two branch campuses: Ultuna; usually the second and third years with an emphasis on agriculture, and Alnarp; the first and last years in mainly horticultural subjects. In the area of crop production, it is possible for the student to remain at the Ultuna campus the entire time. In the future, students will select a single campus.

The first year consists of 13 months of theoretical training and practical work. The introductory course gives a comprehensive view of horticulture in relation to society. International production, distribution, marketing, research, and education are covered. Study technique, methodology, and scientific writing, and 6 months of practical work are also included. Coursework consists of a general introduction, plant material and nutrition, applied horticultural technology, greenhouse crops,

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field production, nursery crops, production of fruit and berries, and economy. Students become familiar with the wide branches of horticulture, the horticultural industry, and the structure within a horticultural firm, and can choose their specialization.

In the second and third years, a student specializing in crop production is required to take automatic data processing (3), botany, plant physiology (10), chemistry (16), mathematics (2), microbiology/soil and plant (5), molecular biology, the cell (3), and statistics (5). Students in the economy and technology branches must take the same program as those in agronomy. The food science and biotechnology branches, which were recently introduced, will require the same courses. By the end of the second year, the student must have created a program within a branch of studies approved by the Committee for Undergraduate Studies. A maximum of 8 subjects of 5 points or less may be taken as part of the program, and a minimum of 40 points must be completed in applied subjects.

The fourth year consists of optional courses in the following areas: horticultural economics, horticultural sciences, plant pathology, building technology and building production, park and construction technology, development studies, plant materials, and landscape conservation and management. Courses may also be taken at other universities in Sweden or abroad. After the second year, 12 weeks of special practice are begun within the specialization with the approval of the advisor and must be completed by the end of the program. Additional courses in a specialization and the thesis project (20) are completed. The thesis must show ability to apply acquired knowledge through independent analysis of a specific problem within one of the areas of specialization. Normally this represents 200 hours of work during the semester.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Hortonomexamen (Master of Science in Horticulture) 180, 200 points	*Hortonomexamen* (University Diploma in Horticulture) 180 points

Landscape Architecture (*Landskapsarkitektur*): This 5-year, 200-point program, leading to the *Landskapsarkitektexamen* (Master of Science in Landscape Architecture until July 1993 and thereafter University Diploma in Landscape Architecture), provides a broad background with an emphasis on biology, technology, economics, arts, and sociology, and consists of theoretical studies, field work, written exercises, and study trips. The program is offered at the Ultuna and Alnarp campuses, and in the future students will select one campus.

The first 2 years of the study program are based at the Ultuna campus. Aspects of the natural landscape are studied in such courses as geology, soil sciences, and botany. The history of landscape architecture, measuring and scaling, movement patterns, and the characteristics and utility of various materials are introduced.

The last 3 years of the program are spent at the Alnarp branch campus and focus on landscape planning, landscape architecture, and plant materials. During year 3, courses include the structural characteristics of rural and urban areas, historical development of the landscape, the feasibility of various forms of land use, the municipal planning process from conception and decisions to implementation, park plants, and how to care for wooded and other grounds close to forest areas. Courses are offered in the following areas: planning (35 points), biology/ecology (30), graphic art/design (10), economics (5), soil (10), technology/building and construction (15).

During years 4 and 5, students specialize in one of three areas. Landscape planning provides expertise in municipal planning and allows the landscape architect to recommend future utilization of land areas. It introduces alternative options in the expansion of urban areas and the countryside and the preservation of natural resources. Landscape architecture emphasizes planning and shaping urban areas and the landscape during the construction or reconstruction of residential areas, parks, squares, or sports grounds. Plant materials and landscape construction and maintenance methods deal with individual plants and the botanical world as a whole, emphasizing the character, growth requirements, developmental possibilities, and maintenance methods.

All students are required to complete 6 months of practical work within their specialty during summer breaks. Placements are at plant nurseries, with park landscape gardeners or contractors, state or municipal administrative units, or consulting firms. Students also participate in excursions within Sweden and abroad. A 10-point thesis project must be completed during the final year. The student is expected to apply knowledge acquired in presenting independent analysis of a problem.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Landskapsarkitektexamen (Master of Science in Landscape Architecture) 200 points	*Landskapsarkitektexamen* (University Diploma in Landscape Architecture) 200 points

Veterinary Medicine (*Veterinärlinjen*): The 5.5-year, 220-point program, leading to the *Veterinärexamen* (Master of Science in Veterinary Medicine until July 1993 and thereafter University Diploma in Veterinary Medicine [DVM]), is both theoretical and practical. During the clinical phase, students work with patients in the veterinary hospital of the University. Courses are taken in consecutive order and passed during a specific year before students continue to the next year. In addition, the program requires at least 1 month of compulsory practice within the animal production sector, two papers, and a minor project.

The program is divided into 3 areas: preclinical, including anatomy, physiology, and chemistry; paraclinical, covering the areas of pharmacology and animal hygiene; and clinical, which is both theoretically and practically based. Most of the program is offered at Uppsala but some clinical and practical training is also offered at Skara (see Table 5.2).

Graduates automatically receive a license from the National Board of Agriculture (*Statens Jordbruksverk*). Only graduates from this program are qualified to practice within the country.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Veterinärexamen (Master of Science in Veterinary Medicine) 220 points	*Veterinärexamen* (University Diploma in Veterinary Medicine [DVM]) 220 points

Licentiate (*Licentiatexamen*) and Doctoral (*Doktorsexamen*) Programs: The *Licentiatexamen* requires completion of a first degree for admission. The program is a 2-year, 80-point program that includes a thesis. The type of licentiate awarded depends upon the area of the first degree. The *Doktorsexamen*, which requires completion of a first degree for admission, is a 4-year, 160-point program with a dissertation. The type of doctorate awarded also depends upon the area of the first degree.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Agronomie Licentiatexamen (Licentiate in Agriculture) 80 points	No change
Filosofie Licentiatexamen (Licentiate in Philosophy) 80 points	No change
Licentiatexamen i Veterinärmedicin (Licentiate in Veterinary Medicine) 80 points	No change
Skoglig Licentiatexamen (Licentiate in Forestry) 80 points	No change
Teknisk Licentiatexamen (Licentiate in Engineering) 80 points	No change
Agronomie Doktorsexamen (Doctor of Agriculture) 160 points	No change
Doktorsexamen i Veterinärmedicin (Doctor of Veterinary Medicine) 160 points	No change
Filosofie Doktorsexamen (Doctor of Philosophy) 160 points	No change
Skoglig Doktorsexamen (Doctor of Forestry) 160 points	No change
Teknisk Doktorsexamen (Doctor of Philosophy) 160 points	No change

Table 5.2 Veterinary Medicine Course List (1992, with hours)

Courses	Lectures	Demon-stration	Practical Training	Labs
Preclinical	534	265	397	187
Paraclinical	626	65	217	220
Clinical	970	317	1827	127
Year 1				
Anatomy (17 points)	170	120	220	
Cell Biology (2)	30	6	9	
Histology (6)	60	60	60	
Medical/Physiological Chemistry (14)	120		40	150
Year 2				
Bacteriology (6)	70			80
General Pathology (1)	60			
General Nutrition (5)	32	55	20	12
General Ethology (1)	16	4	8	
Immunology (2)	25		80	15
Parasitology (4)	62	4		16
Physiology (8)	106	20	40	25
Radiobiology (9)	16			
Virology (4)	36			24
Year 3				
Animal Hygiene (1)	22	12	4	
Clinical Radiology (1)	15	10		
Clinical Chemistry (1)	10	1	5	14
General Genetics/Animal Breeding (3)	45	5		10
General Epidemiology (4)	55		45	
Hoof Care (2)	24	14	26	
Lab Animal Science (3)	27		30	
Surgery (3)	55	34	14	
Nonruminant Medicine (4)	45	15	14	
Pharmacology (6)	53		14	45
Special Pathology (9)	110	30	10	
Toxicology (2)	21			15
Year 4				
Nonruminant Medicine (16)	100	42	410	
Surgery (16)	85	44	400	
Special Pathology (5)	40		100	
Clinical Chemistry (1)	11	6		13
Clinical Radiology (2)	10	55	20	
Year 5				
Food Hygiene (5)	50		70	35
Obstetrics/Gynecology (18)	140	55	380	
Ruminant Medicine (16)	135	55	305	
Veterinary Law (1)	20			
Year 6				
Applied Epidemiology/Epizootology (6)	90		90	
Development Studies (1)	24		4	
Food Hygiene (10)	140		15	65

Paraprofessional Programs

Farm Management (*Lantmästarlinjen*): The 1-year, 40-point program, leading to the *Lantmästarexamen* (University Certificate in Farm Management), was increased to 2 years or 80 points in 1993, leading to the *Lantmästerexamen* (University Diploma in Agricultural and Rural Management). Graduates are qualified to work in the areas of farm inspection, production, commerce, industry, and consulting, or to pursue further tertiary education. The program consists of courses in animal husbandry, work methodology and technology, business economics, accounting, animal and plant physiology, chemistry, agricultural science, and law, offered at the Alnarp campus.

Admission requires completion of the land and animal husbandry line in upper secondary school and 2 years of relevant work experience or equivalent, and Swedish, English, and mathematics in upper secondary school or the equivalent.

The first semester includes courses in labor market, agricultural history, agriculture and society, international perspectives on agriculture, and marketing. The second and third semesters consist of courses in vegetable production, animal production, and economics; the final semester of advanced courses and electives in the area of interest.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Lantmästarexamen (University Certificate in Farm Management) 40 points	*Lantmästarexamen* (University Diploma in Agricultural and Rural Management) 80 points

Forest Technician and Forest Engineer (*Skogstekniker* and *Skogsmästare*): The 2-year, 80-point forest technician program, leading to the *Skogsteknikerexamen* (University Certificate in Forest Studies until July 1993 and thereafter University Diploma in Forest Management) qualifies a graduate to work as a forestry inspector in a forestry company or as a consultant. Admission requires completion of the 3-year land and animal husbandry line and 2 years of mathematics in upper secondary school or the equivalent, plus 1 year of work experience in forestry. The program consists of supervision and guidance, economics, mathematics, ecology, conservation, silviculture, forestry technology, forest management, and wood technology. Graduates may go on to further education or employment.

The 1-year, 40-point forest engineer program, leading to the *Skogsmästerexamen* (University Certificate Forest Studies until July 1993 and thereafter the University Diploma in Forest Engineering) qualifies a graduate to work in the timber industry, silvicultural organizations, or private enterprise. Admission requires completion of the *Skogsteknikerexamen* or the equivalent. The program consists of courses in information, economics, planning, innovations in forestry, a degree project (6 points), and study from the areas of ecology, planning, international forestry, law, and crop care.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Skogsteknikerexamen (University Certificate in Forest Studies) 80 points	*Skogsteknikerexamen* (University Diploma in Forest Management) 80 points
Skogsmästarexamen (University Certificate in Forest Studies) 40 points	*Skogsmästarexamen* (University Diploma in Forest Engineering) 40 points

Landscape Construction and Management Engineering (*Landskapsingenjörlinje*): The 2-year, 80-point program, leading to the *Landskapsingenjörsexamen* (University Diploma in Landscape Construction and Management), began in July 1994.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Not offered	*Landskapsingenjörsexamen* (University Diploma in Landscape Construction and Management) 80 points

Park and Market Garden Management Technician and Horticultural Management (*Trädgårdsteknikerlinjen/Trädgårdsingenjörslinjen*): The 1-year, 40-point park and market garden management technician program, leading to the *Trägdårdsteknikerexamen* (University Certificate Park and Market Garden Management), was expanded to a 2-year, 80-point program leading to the *Trädgårdsingenjörsexamen* (University Diploma in Horticultural Management). In the fall of 1993 the last class for the 1-year program and the first class for the 2-year program were admitted. Offered on the Alnarp campus, the program leads to qualification in horticultural production, distribution, and business.

Admission requires completion of a land and animal husbandry program in the upper secondary school or a 2-year horticultural line in upper secondary school, and includes 18 months of work experience, or completion of the upper secondary school biological line and 2 years of practical work experience. Swedish, English, and mathematics are required for admission to the program.

The old program consisted of courses in biology, ecology, economics, plants, plants and design, national park care and cultivation, storage, distribution and consumption, business and design marketing, and advanced courses in plant and greenhouse production. The courses for the 2-year, 80-point program will increase in number and scope.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Trädgårdsteknikerexamen (University Certificate in Park and Market Garden Management) 40 points	Not offered
Not offered	*Trädgårdsingenjörsexamen* (University Diploma in Horticultural Management) 80 points

Veterinary Nurse (*Djursjukvårdare*): The 1-year, 40-point program, leading to the *Djursjukvårdarexamen* (University Certificate in Veterinary Nursing) until July 1993 and thereafter to a *Utbildningsbevis* in field (Certificate in field), concentrates on the care of horses, dogs, and cats. Admission requires completion of 2 years of animal production, an animal nursing program, and natural sciences or biology from upper secondary school or the equivalent. Also required for admission to the program are 2 years of experience working with an animal nurse or keeper, or 1 year of practical experience working with a nurse in an animal hospital or clinic.

The first 18 weeks consist of theoretical coursework in functions, nursing care, and disease. The next 18 weeks are spent in practical work experience in an animal hospital, and training in research testing and management. The last 4 weeks consist of further theoretical coursework in the areas of animal health and nursing.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Djursjukvårdarexamen (University Certificate in Veterinary Nursing) 40 points	*Utbildningsbevis* (Certificate [field]) 40 points

Architecture

Architecture (*Arkitektur*): The 4.5-year, 180-point program, leading to the *Arkitektexamen* (Master of Architecture) until July 1993 and thereafter to the University Diploma in Architecture, may also be translated as the Master of Science in Architecture if the program includes 80 points in the major. It is offered by Chalmers University of Technology, the Royal Institute of Technology, Luleå Univer-sity College and Institute of Technology, and the Lund University. Until 1986, the program was 4 years, 160 points. During the program a student completes coursework, projects from different areas such as housing, urbanism, or work places, 17 weeks of practical work experience during the summer, and a project thesis. Completion of the degree program qualifies a student for further education or work in such areas as architectural design consulting, urban planning or research, and education.

In addition to the general admission requirements, the program requires 3 years of mathematics, chemistry, and physics in upper secondary school or the equivalent, and a special architecture test. A third of the places are filled according to the results of this test, the remainder according to grade point average and achievement test results.

The first and second years offer an introduction to design theory, technology, and project planning. The third and fourth years include elective courses and projects. Depending upon the choice of courses, students may specialize in a certain area or seek a wider field of knowledge. The final semester is devoted to the thesis project. Courses comprise a third of the time, and projects help develop technical, artistic, practical, and critical thinking in the student in dealing with specific problems in architecture and urban planning. Practical work experience, 17 weeks during the summers, earns no credit. The following is a typical program offered by the Chalmers University of Technology (1992-1993).

Year 1- introduction to architecture (2), project: building construction (8), building design and construction (3), building technology (2), space

(8), visualization (3), sketching, painting and sculpture (4) material and handicraft (3), fatigue design methods (1), history of architecture (6)
Year 2- structural design (4), housing in society (1), rebuilding, material and handicraft (4), one-family house (2), multistory house (6), local plan (5), comprehensive planning (5), urban design (5), sketching, painting and sculpture (4), CAD (2), history of architecture (2)
Year 3- history of architecture (2), sketching, painting and sculpture (2), structural design (2), interior design (2), modern architecture (2), project: work place (12), specialization (18) in architecture, history of architecture, form and technique, or urban design
Years 4/5- environment and resource analysis (2), competition sketch (3), introduction to structural design and construction (2), enhanced design studies in the areas of architectural design, urban design, or space design (24), elective (2), thesis project (18).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Arkitektexamen (Master of Architecture) 160, 180 points	*Arkitektexamen* (University Diploma in Architecture*) 180 points

*As of July 1993 the certificate may also be referred to as Master of Science in Architecture if the program includes 80 points in the major subject.

Art and Applied Art

All programs since July 1993 lead to the *Konstnärlig Högskoleexamen i Konst och Design*, with points varying from 80 to 200. Formerly, the credential of *Högskoleexamen pä (field)*, was given, also with variable points.

Applied Art (*Konsthantverksutbildning*): The 4-year, 170-point program in applied arts and crafts is offered at the University of Göteborg and the University College of Arts, Crafts and Design. Areas of study are ceramics, glass, metals, and textiles. Admission to the program requires proficiency in the area and submission of a portfolio.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på Konsthantverkslinjen inriktning mot Keramikkonst/Metallkonst/Textilkonst (Master of Fine Arts in Applied Arts and Crafts in Ceramics/Metals/Textiles) 170 points	*Konstnärlig Högskoleexamen i Konst och Design* (University Diploma in Fine Arts and Design) 170 points
Högskoleexamen på Linjen för Textil Konst och Formgivning (Master of Fine Arts in Textile Art and Design) 170 points	
Högskoleexamen på Linjen för Tredimensionell Gestaltning inriktning mot Keramik och Glas/Metallhantverk/Skulptur (Master of Fine Arts in Three-Dimensional Design in Ceramics and Glass/Metal/Sculpture) 170 points	

Design (*Design*): A 1-year, 40-point graphics design program, leading to a certificate, is offered at the University of Göteborg and the 2-year, 80-point program is offered at the University College of Management in Graphic Production Marketing and Public Relations in Stockholm. Admission requires 6 months of experience within the graphics industry. The program consists of courses in graphic technique, history of art and books, language, economics, administration, and law.

A 4-year, 170-point program in design is offered at the University College of Arts, Crafts and Design, and the Universities of Göteborg and Umeå. The programs have options in graphic design, industrial design, interior architecture, and production. Admission to the program at Göteborg and the University College requires proficiency in the area and submission of a portfolio. Admission at Umeå requires completion of the general requirements and 2 years of Swedish and English or the equivalent, proficiency in the area, and submission of a portfolio.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på Grafiska Linjen, ettårig kurs (University Certificate in Graphic Design) 40 points	*Utbildningsbevis* (Certificate) 40 points
Högskoleexamen på Grafiska Linjen, Tvåårig kurs (University Certificate in Graphic Design and Printing Trades Management) 80 points	*Konstnärlig Högskoleexamen i Konst och Design* (University Diploma in Fine Arts and Design) 80 to 170 points
Högskoleexamen på Designlinjen (Master of Fine Arts in Design) 170 points	
Högskoleexamen på Linjen för Grafisk Design och Illustration (Master of Fine Arts in Graphic Design and Illustration) 170 points	
Högskoleexamen på Linjen för Industridesign (Master of Fine Arts in Industrial Design) 170 points	
Högskoleexamen på Linjen för Inredningsarkitektur (Master of Fine Arts in Interior Architecture) 170 points	

Fine Art (*Fri Konst*): A 5-year, 200-point program in fine art is offered at the Universities of Göteborg and Umeå, and the Royal University College of Fine Arts. The programs provide training in sculpture, graphics, and painting. Admission requires proficiency in the area and submission of a portfolio. Applicants must be at least 18 years of age.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på Linjen för Fri Konst, Inriktning på Måleri/Skulptur/Grafik (Master of Fine Arts in Painting/Sculpture/ Graphics) 200 points	*Konstnärlig Högskoleexamen i Konst och Design* (University Diploma in Fine Arts and Design) 200 points

Photography (*Fotoutbildning*): A 3-year, 120-point program in photography is offered at the University of Göteborg with options in general photography for portraits and industry, technology in industry, museums, hospitals, or mass media. Admission requires fulfillment of general requirements, proficiency in the field, and submission of a portfolio.

A 2-year, 80-point advanced course is offered at the University College of Arts, Crafts and Design. Admission requires completion of a university level program in photography or 4 years of professional experience.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på Fotograflinjen, Allmän Inriktning (Bachelor of Arts in Photography, General Program) 120 points	*Konstnärlig i Högskoleexamen Konst och Design* (University Diploma in Fine Arts and Design) 80, 120 points
Högskoleexamen på Fotograflinjen, Press/Medieinriktning (Bachelor of Arts in Photography, Mass Media Program) 120 points	
Högskoleexamen på Fotograflinjen, Teknisk/Vetenskaplig Inriktning (Bachelor of Arts in Photography, Technological Program) 120 points	
Högskoleexamen på Påbyggnadslinjen Fotografi (Postgraduate Diploma in Photography) 80 points	

Business

Administration (*Förvaltning*): A 2-year, 80-point program, leading until July 1993 to *Högskoleexamen avseende grundläggande Förvaltningslinjen* (University Certificate in Public Administration); thereafter to *Högskoleexamen (field)* (Diploma in [field]), allows for specialization in the general program in administration (*förvaltning*) and economics (*ekonomi*). The program consists of general studies, business law, economics, social geography, statistics, and political science. It qualifies a graduate to work as an assistant in government administration.

A 3-year, 120-point program and a 3.5-year, 140-point program, both leading to a *Förvaltningsexamen* (Bachelor of Science in Public Administration) until July 1993 and thereafter to *Politices Kandidatexamen* (Bachelor of Public Administration) and a 4-year, 160-point program in administration, leading to a *Förvaltningsexamen* (Master of Science in Public Administration) until July 1993 and thereafter to a *Politices Magisterexamen* (Master of Public Administration), provide training in economics and administration for positions in the municipal and state government agencies and within organizations, and for consulting. The programs allow specialization in areas such as public administration (*offentlig förvaltning*), public finance and accounting (*förvaltningsekonomi*), management and organization (*organisation*), local and regional planning (*lokal och regional planering*), and advanced economics and statistics (*samhällsekonomiskt utredningsarbete*).

One or more of these programs are offered at the Universities of Göteborg, Linköping, Lund, Stockholm, Umeå, and Uppsala, and the University Colleges of Karlstad, Luleå, Örebro, Östersund, and Växjö. Additional special requirements for admission are 2 to 3 years of mathematics and social science in upper secondary school or equivalent.

The first 1.5 years fulfill basic requirements; the remainder of the program is specialization and includes a thesis project.

Year 1- introduction/political science (20 points), survey of law (10), statistics (10)
Year 2- economics (20), administrative economics (20)
Year 3- administration (20) or economics (20); specialization in public administration: administrative law (10), social geography (10), electives (20); in administrative economics: economics (20), administrative law (5), social geography (5), electives (10)
Year 4- specialization (20), thesis project (20).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen avseende grundläggande Förvaltningslinjen (University Certificate in Public Administration) 80 points	*Högskoleexamen (field)* (Diploma in [field]) 80 points
Förvaltningsexamen (Bachelor of Science in Public Administration) 120, 140 points	*Politices Kandidatexamen* (Bachelor of Public Administration) 120, 140 points
Förvaltningsexamen (Master of Science in Public Administration) 160 points	*Politices Magisterexamen* (Master of Public Administration) 160 points

Business Administration and Economics (*Ekonomi*): A 2-year, 80-point program, leading to a *Högskoleexamen avseende grundläggande Ekonomutbildning* (University Certificate in Business Administration) until July 1993 and thereafter to a *Högskoleexamen (field)* (Diploma in field), which allows specialization in general programs (*allmäninriktning*), accounting and auditing (*redovisning och revision*), transport management (*transportekonomisk inriktning*), and marketing (*inriktning mot marknadsföring*). Graduates may continue their studies in a longer program and receive credit for the first 2 years. (While the literal translation of *ekonomi* is economics, in European usage it means business administration, including economics.)

Other specialized programs in the area of economics include a 2-year, 80-point program leading to a *Högskoleexamen (field)* (University Certificate) until July 1993 and thereafter to a *Utbildningsbevis* (Certificate); a 3-year, 120-point program and a 3.5-year, 140-point program, both leading to a *Ekonomexamen* (Bachelor of Science in Business Administration and Economics) until July 1993 and thereafter to a (*Ekonomie) Kandidatexamen* (Bachelor of Business Administration and Economics); and a 4-year, 160-point program, leading to the *Ekonomexamen* (Master of Science in Economics and Business Administration) until July 1993 and thereafter to the (*Ekonomie*) *Magisterexamen* (Master of Business Administration and Economics) or the *Civilekonomexamen* (Master of Science in Economics and Business Administration). The *Civilekonomexamen* is only awarded by the Stockholm School of Economics, which as a private institution confers a different credential to distinguish its degrees from programs offered by the other universities.

Most universities and university colleges offer at least one of these programs. Several institutions also offer local programs in business administration with a second area of study, such as administrative data processing (*adb*), accounting (*redovisning*), marketing (*marknadsföring*), cost accounting (*ekonomiska kalkyler*), management and organization (*organisation*), consumer economics (*konsumentekonomi*), transport management (*transportekonomi*), small business (*småföretagsekonomi*), advanced economics and statistics (*samhällsekonomiskt utredningsarbete*), or different combinations of the above.

The license for auditing requires the *Ekonomexamen* or the equivalent with a specialization and 5 years of auditing experience. Application for the license is through the Board of Commerce (*Kommerskollegium*). There is also a "semi-license" that requires completion of a 2-year tertiary level accounting or auditing degree and work experience.

Beyond the general admission requirements, the programs require 3 years of mathematics and 2 years of social science in upper secondary school or the equivalent. The Stockholm School of Economics requires 3 years of mathematics, English, Swedish, and history, and 2 years of social science in upper secondary school or the equivalent.

In the 3-year, 120-point, 3.5-year, 140-point, or 4-year, 160-point program, the first 2 years are focused on basic principles of business administration and economics but include other area courses such as law, statistics, international economics, or languages. Students choose a specialization during the last part of the program and complete a thesis, presented at a seminar in oral and written forms. Specializations include accounting and managerial finance, finance, information management, international business, international economics and geography, managerial economics and management control, marketing, organization theory, and human resource management. Many institutions have internationalized their programs with courses in language and area studies. Students are also encouraged to take part of their program abroad.

The following is a sample 4-year program from the Stockholm School of Economics. Students have the option to terminate at 3.5 years, with fewer elective and specialization courses.

Year 1- organizational and consumer behavior (3), bookkeeping and cost accounting (3), information management (3), cost and revenue analysis (5), accounting and managerial finance (5), marketing (5), introduction to economics (1), microeconomics and allocation theory (5), economic statistics systems and mathematics (8), introduction to law (2)

Year 2- organization and leadership (5), macroeconomics (5), economic policy (5), economic statistics (5), either international economics and geography (5) with law (10) or business information processing (5), elective courses (5-15)

Years 3/4- financial information and markets (20) or industrial development and organization (20), strategic management methodology (20), specialization, electives, and/or thesis project (10). The number of courses and points depends upon the final degree selected.

Course Content: Economics- economic system functioning, determination of prices in relation to various activities within the economy; Cost and Accounting - methods of evaluating and measuring financial costs and performance, decision-making, evaluating profitability, and economic control; Finance- policies for corporate finance, financial planning, sources of finance, financial instruments from national and international perspectives, the use of accounting instruments for financial analysis and the valuation of corporations; Management Accounting- corporation central information systems for internal steering and control, and for external reports and analysis; Organization Theory- administrative structure of the corporation; International Business- strategy, organization, and management in multinational companies; Marketing- sale of goods and services to other corporations and to consumers, consumer and corporate behavior, market analyses, product and market strategies, distribution, and market communication; Information Management- supply and development of information systems, data-based decision-making, support systems for corporate activities, and the use of information and information technologies in corporations and society; Financial Economics- financial systems in general, financial markets and institutions, financial instruments and their appraisal, risk appraisal, analysis of problems with regard to financing, financial administration, and risk management; Economic Statistics- basic grounding in statistical methodology required for continued studies, methods of critical evaluation, and appropriate use of statistical information found in mass media, government inquiries, and company reports; International Economics- application of economic and geographical theories and methods to various issues of international economics; Law- overview of the legal system and its application in society, with special attention to business-related aspects, contract law, labor law, securities law, company law, tax law, etc.

Some institutions have begun to offer Master of Science degrees in business administration and economics. Admission to these programs usually requires completion of a first university degree and coursework in the field. The University College of Jönköping offers a 4-year program with the last 2 years taught in English (see Appendix A under Special Programs for a listing of other institutions).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen avseende grundläggande Ekonomutbildning (field) (University Certificate in Business Administration [field]) 80 points	*Högskoleexamen (field)* (Diploma in [field]) 80 points
Ekonomexamen (Bachelor of Science in Business Administration and Economics) 120, 140 points	*(Ekonomie) Kandidatexamen* (Bachelor of Business Administration and Economics) 120, 140 points
Ekonomexamen (Master of Science in Business Administration and Economics)/ *Civilekonomexamen* (Master of Science in Economics and Business Administration) 160 points	*(Ekonomie) Magisterexamen* (Master of Business Administration and Economics)/*Civilekonomexamen* (Master of Science in Economics and Business Administration) 160 points
Ekonomie Licentiatexamen (Licentiate in Business Administration and Economics) 80 points	No change
Ekonomie Doktorsexamen (Doctor of Philosophy) 160 points	No change

International Business Administration and Economics (*Internationell Ekonomi*): This 4-year, 160-point program in international economics, leading to the *Internationell Ekonomexamen* (Master of Science in Business Administration and Economics-International Business Program) until July 1993 and thereafter to the *(Ekonomie) Magisterexamen med Internationell Inriktning* (Master of Business Administration and Economics-International Business Program), includes courses such as business administration and economics but with an international perspective, and includes study and/or knowledge of one or more foreign languages. The program at the University of Lund includes 110 points in business administration (70), economics, and law, and includes a thesis project. Institutions may offer choices in French, German, Italian, Spanish, Japanese, or Russian language studies that comprise 40 points, and all programs include 10 points in English and study or practice abroad. The program is available at the Universities of Göteborg, Linköping, Lund, Uppsala, and Umeå, and the University College of Växjö. Since July 1993 it can be completed with 160, 180, or 200 points.

In addition to the general requirements, the special requirements for admission are 3 years of mathematics, Swedish, English, and the major language, and 2 years of social sciences in upper secondary school or the equivalent.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Internationell Ekonomexamen (Master of Science in Business Administration and Economics - International Business Program) 160 points	*(Ekonomie) Magisterexamen med Internationell Inriktning* (Master of Business Administration and Economics - International Business Program) 160, 180, 200 points

Licentiate in Business Administration and Economics (*Ekonomie Licentiatexamen*) is a 2-year, 80-point program that requires the first degree for admission. It is the first half of the doctorate and is composed of coursework and a publicly defended thesis. Graduates may continue in the doctoral program.

Doctor of Philosophy (*Ekonomie Doktorsexamen*) is a 4-year, 160-point program requiring completion of the first degree, and includes a significant number of courses and a dissertation. Courses may include fundamental theory, methodology, and specialized studies within an area. The dissertation may be a monograph or a collection of articles published in scholarly journals, and is publicly defended.

Other Business-Related Programs: Many institutions offer programs in business-related areas such as the 1.5-year, 60-point vocational programs in commerce and distribution (*handels- och distribu-*

tionslinjen), or office and distribution (*kontors- och distributionslinjen*), leading until July 1993 to *Högskoleexamen på (field)* (University Certificate in [field]) and thereafter to *Utbildningsbevis* (Certificate), or the 2-year, 80-point certificate program in tourism (*turismlinjen*), which led until July 1993 to *Högskoleexamen på (field)* (University Certificate in [field]); thereafter translated as Diploma in (field). There had been a 1.5-year, 60-point advanced program in housing and real estate management (*bostads- och fastighetsförvaltningslinjen*) that required completion of the first certificate in the field and led to *Högskoleexamen på Påbyggnadslinjen (field)* (Postgraduate Diploma in [field]). Advanced studies such as this program now lead to a *Magisterexamen* (Master's degree). (For a description of catering and dietetics, see "Hotel and Restaurant.")

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på (field) (University Certificate in [field]) 60 points	*Utbildningsbevis* (Certificate) 60 points
Högskoleexamen på (field) (University Certificate in [field]) 80 points	*Högskoleexamen på (field)* (Diploma in [field]) 80 points
Högskoleexamen på Påbyggnadslinjen (field) (Postgraduate Diploma in [field]) 60 points	*Magisterexamen (field)* (Master of [field]) 60 points

Dance

Dance (*Danslinjen*): There are several programs offered at the University College of Dance in Stockholm: a 1-year, 40-point *Utbildningsbevis* or *Bevis* (teaching certificate) for professional dancers with 5 years of experience; a 2-year, 80-point program for folk dance, leading until July 1993 to a *Högskoleexamen på (field)* (University Certificate in [field]) and thereafter to *Konstnärlig Högskoleexamen i Dans* (University Diploma in Dance); and a 3-year, 120-point program in dance education and choreography, leading until July 1993 to *Högskoleexamen på Danslinjen [Danspedagogik/Koreografi]* (Bachelor of Fine Arts in Dance [Education/Choreography]) and thereafter to *Konstnärlig Högskoleexamen i Dans*. A new 2-year, 80-point program in modern and contemporary dance began in 1994, which will also lead to *Konstnärlig Högskoleexamen i Dans*.

Admission to these programs requires an audition for the choreography program, and the dance education program requires completion of the dance line in upper secondary school or the equivalent, 2 years of Swedish and English, a history course in upper secondary school or the equivalent, musical knowledge, and an audition.

The program in dance education allows the student to teach dance in a variety of choreographic disciplines. The course is composed of 6 disciplines: classical ballet, contemporary dance, jazz, children's dance, Spanish, and character dance. Students choose one main discipline at the time of admission. The program represents 1,500 periods of technique, 350 of music, 250 of history of dance, 100 of anatomy/physiology, and 900 of education. One period equals 45 minutes.

Year 1- two technique sessions per day and courses in music, rhythmics, musical instrument, anatomy, psychology of teaching, improvisation, history of dance, music and drama

Year 2- two technique sessions per day and courses devoted to methodology, repertoire, and composition, with compulsory subjects including music and history of music, rhythmics, voice and movement, history of dance, psychology of teaching, and physiology of training

Year 3- one technique session per day from one main discipline with compulsory courses in music, rhythmics, voice and movement, anatomy, psychology of teaching, history of dance including seminar work, history of drama, old Swedish dance and society dance, and optional studies in a third discipline. Practice teaching is required.

A shortened version of the above 3-year program is a 1-year, 40-point program for professional dancers who are trained as dance teachers, and includes only technique in one discipline.

The program in choreography includes courses in composition, improvisation, music, cultural history, dance history, analysis of choreographic work, courses in theater and television technique, scene rendering, preparatory scenic production, and a final project. There is also a practical period in the theater.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Utbildningsbevis (Certificate) 40 points	*Bevis* (Certificate) 40 points
Högskoleexamen på (field) (University Certificate in [field]) 80 points	*Konstnärlig Högskoleexamen i Dans* (University Diploma in Dance) 80, 120 points
Högskoleexamen på Danslinjen (Danspedagogik/ Koreografi) (Bachelor of Fine Arts in Dance [Education/Choreography]) 120 points	

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60 points	*Bevis* (Certificate) 60 points
Högskoleexamen i/på (field) (University Certificate in [field]) 80 points	*Konstnärlig Högskoleexamen i Scen och Medier* (University Diploma in Performing Arts and Media) 80, 140 points
Högskoleexamen på Musikdramatiska Linjen (Bachelor of Fine Arts in Musical Drama Acting) 120, 140 points	

Dramatic Arts

Opera (***Opera***): The University College of Opera in Stockholm offers programs in singing, coaching, and stage directing. The 3.5-year, 140-point program, leading until July 1993 to *Högskoleexamen på Musikdramatiska Linjen* (Bachelor of Fine Arts in Musical Drama Acting), thereafter to *Konstnärlig Högskoleexamen i Scen och Medier* (University Diploma in Performing Arts and Media), was formerly a 3-year, 120-point program. The College offers programs for opera singers and provides training in acting, dance and movement, musical and stage interpretation, cultural history, fencing, make-up, voice training, Italian, German, French, and participation in full-scale opera productions. The 1.5-year, 60-point program for opera singers who already have some experience, leading until July 1993 to *Högskoleexamen i/på (field)* (University Certificate in [field]) and thereafter to a *Bevis* (Certificate), is also offered. This is a shorter version of the 140-point program. Admission to either of the two programs requires applicants to be at least 20 years of age, have a developed singing voice, and complete an audition.

A 2-year, 80-point program for coaches (*repetiteurs*), leading until July 1993 to a *Högskoleexamen i/på (field)* (University Certificate in [field])) and thereafter to *Konstnärlig Högskoleexamen i Scen och Medier* (University Diploma in Performing Arts and Media), is also offered. The 2-year, 80-point advanced opera directing program requires prior completion of a university level program in music, theater, or the equivalent.

Theater/Media (***Teater/Media***): There are 1-year, 40-point and 1.5-year, 60-point programs in media studies at the University College of Film, Radio, Television, and Theater, leading until July 1993 to a *Högskoleexamen på (field)* (University Certificate in [field]); thereafter to a *Bevis* (Certificate). A two-year, 80-point program in broadcast production is offered at the University College of Kalmar. A 3-year, 120-point program in media is offered at the University College of Film, Radio, Television, and Theater. Admission requires an audition. All credentials for programs of at least 2 years in length until July 1993 were *Högskoleexamen på (field)* and thereafter were *Konstnärlig Högskole-examen i Scen och Medier* (University Diploma in Performing Arts and Media). Until July 1993 programs less than 120 points were translated officially as University Certificate in (field), those with 120 or 140 points as Bachelor of Fine Arts (field), and those with 160 points as Master of Fine Arts (field).

The program includes practical studies and group work. Options in the 3-year program: theater directing (*teaterregi*), stage design (*teaterscenografi*), dramaturgy (*teaterdramaturgi*), theater production (*teaterproduktion*), make-up/wig making (*maskering/ perukmakeri*), television directing (*film/videoregi*), camera and lighting technique (*film/videobild*), sound technique (*film/videoljud*), and production administration (*film/video-produktionsledning*).

In theater, the programs available are a 3-year, 120-point program in mime and a 4-year, 160-point program in acting at the Stockholm University College of Acting; the 3.5-year, 140-point programs in musical drama and acting at the University of

Göteborg; and the 3.5-year, 140-point program in acting at the University of Lund.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Utbildningsbevis (Certificate) 40, 60 points	*Bevis* (Certificate) 40, 60 points
Högskoleexamen på Allmänpraktiska Medielinjen (University Certificate in Media Studies) 40 points	*Konstnärlig Högskoleexamen i Scen och Medier* (University Diploma in Performing Arts and Media) 80, 120, 140, 160 pts.
Högskoleexamen på Medielinjen för Film/TV, Radio och Teater (University Certificate in Broadcasting Production) 80 points	
Högskoleexamen på Medielinjen för Film/TV, Radio och Teater (Bachelor of Fine Arts in Broadcasting Production for Film/TV, Radio and Theater) 120 points	
Högskoleexamen på Mimlinjen (Bachelor of Fine Arts in Broadcasting Production/ Mime/Musical Drama/Acting) 120 points	
Högskoleexamen på Skådespelarlinjen (Bachelor of Fine Arts in Acting) 140 points (Master of Fine Arts in Acting) 160 points	
Högskoleexamen på (field) (Bachelor of Fine Arts in [field]) 140 points	

Engineering

Professional Programs

The first engineering program was begun at the Royal Institute of Technology in the late eighteenth century, followed in 1829 by the School of Industry, which became Chalmers University of Technology. It was not until the 1960s and 1970s that the longer, more academic engineering programs were established at Linköping, Luleå, Lund, Uppsala, Umeå, and the institutes of technology that offered vocational training and were integrated into the universities and university colleges.

Admission requires completion of the natural science or technology line in the upper secondary school with 3 years of mathematics, physics, and chemistry, and 2 years of Swedish and English or the equivalent. Since the number of students leaving this secondary program and the number of places available in engineering are about the same, it has been difficult to fill the places at some institutions because these students are also qualified to enter programs in the science and teaching fields. There are also many programs to encourage nontraditional students to enter engineering programs.

Students take an average of 20 points of credit per semester. Most courses have lectures (which can comprise 15-33% of the total program), tutorials, problem solving sessions, and laboratory work for a total of 20-30 hours per week. Beginning in 1986, all 4-year programs were changed to 4.5 years to increase the breadth of the courses. Most programs are now 4.5 years in length but many students take 5 to 5.5 years to complete their studies.

Degrees are awarded by the Universities of Linköping and Lund, Luleå University College and Institute of Technology, Chalmers University of Technology, and the Royal Institute of Technology. The Universities of Uppsala and Umeå offer degrees in fields such as engineering physics. The University Colleges of Växjö and Skövde have governmental permission to offer the first 2 years of an engineering program, and students can transfer to complete the program. In some cases, students may do part or most of their work at a university college but receive the degree from a university.

The first 2 or 3 years of study usually consist of compulsory core courses in mathematics, chemistry, physics, and basic engineering. The last year is spent in specialization in one or two areas. It is becoming more common for programs to include nontechnical courses that might comprise 10% of the total. Many students are selecting courses in foreign languages, environmental sciences, law, economics, or management. The final term is taken up by the thesis project, which represents 3 to 4 months of work, ranging from 12 to 20 points. It can be carried out individually or in groups, and gives the student the opportunity to do research and project planning. Upon completion, the thesis is discussed and defended at a seminar. The project is often undertaken in conjunction with an industry placement, or as part of an ongoing research project at the school.

Students are also required to complete 17 weeks of practical work experience related to their field of study during the summer. To gain a complete picture of their field, students are often required to spend 50% of the time in a hands-on position and the other half in the office. In the case of Luleå University College and Institute of Technology, the work experience takes place during one of the terms and no credit is awarded. Each teaching period ends with a written examination for each subject. Students may retake the examination if they do not pass. The grading scale ranges from 3 to 5 with 5 being the highest grade (see Chapter 4, Grades).

Many schools are developing or offering courses, a block of courses, or an entire program in English to further internationalize the engineering program. Many links have been established with foreign universities and students are encouraged to spend part of their time studying abroad.

Degrees awarded are the general *Civilingenjörsexamen*, until July 1993 officially translated as Master of Science (field) (see Document 4.5), thereafter as University Diploma (field), and a number of specialized degrees (see Chapter 4, "Credentials Awarded," for specific degrees). Since July 1993 students who have completed at least 120 points, including 60 points in the major subject, may also receive the *Teknologie Kandidatexamen* (Bachelor of Science in Engineering) and those who have completed at least 160 points, including 80 points in the major subject, may also receive the *Teknologie Magisterexamen* (Master of Science in Engineering).

Basic Technical Program (*Tekniskt Basår*): a 1-year program in basic mathematics and science prepares students to go on in one of the technical or scientific fields, or in some cases to teach those subjects in compulsory school. Most students have completed one of the nontechnical lines in upper secondary school. Admission to the program requires 3 years of mathematics and 2 years of natural sciences in upper secondary school or the equivalent.

The program consists of basic courses in mathematics, physics, chemistry, biology or technology, technical history, and problem solving, with about 25 hours per week spent in class. An *utbildningsbevis* (certificate) is awarded at the end of the program, but no credit towards a university program is given. Graduates of the program are guaranteed a place in an engineering or science program.

Chemical Engineering (*Kemiteknik*): The 4.5-year, 180-point program leading to the *Civilingenjörsexamen* is offered at Chalmers University of Technology, the Royal Institute of Technology, the University of Lund, and Luleå University College and Institute of Technology. During the first 2 years, the program is composed of basic courses in chemistry, mathematics, physics and mechanics, and engineering. The third year concentration is on engineering chemistry, heat technology, chemical engineering design, and chemical reaction engineering. The fourth year allows specialization within a chosen area, with students spending about 50 hours per week in classes or doing homework; of this, a third of the time is spent in the laboratory. The fifth year consists of the thesis project, which focuses on applied or basic chemical problems. Four months of industrial work experience is required and is usually a combination of industrial experience and laboratory work. The following is a typical program offered at the University of Lund (1992-1993):

Year 1- general chemistry (6), inorganic chemistry (5), technical analytical chemistry, inorganic analysis (4), mathematics (15), physics (5), computer programming (4)
Year 2- solid state chemistry (2), organic chemistry (9), technical analytical chemistry, organic analysis (3), physical chemistry (10), occupational and environmental hygiene (5), applied mechanics (8), biochemistry (4)
Year 3- mathematical statistics (3), automatic control (4), managerial economics (3), polymer technology (2), chemical reaction engineering (12), chemical technology, process technology (3), fluid mechanics (5), heat engineering (6)
Year 4- separation processes (5) and specialization courses (35-45) in one of the following areas: chemical process technology, materials science, chemistry, biotechnology, food science, or occupational hygiene
Year 5- thesis project (15) and electives.

Civil Engineering (*Väg och Vattenbyggnad*): The 4.5-year, 180-point program leading to the *Civilingenjörsexamen* is offered at Chalmers University of Technology, the Royal Institute of Technology, the University of Lund, and Luleå University College and Institute of Technology. The first 3 years of the program consist of training in basic scientific subjects and a number of applied technology and economics courses. The final 3 semesters involve advanced applied engineering courses and specialization within a chosen area. The final year includes additional advanced work and the thesis, which usually takes 3 to 5 months of research by one or more students and includes theoretical and experimental studies, and 4 to 7 months of experience, including summer work at a construction site. This typical program is offered at Luleå University College and Institute of Technology (1992-1993):

Year 1- mathematics (15), chemistry (3.5), physics (8.5), statistics (3.5), engineering drawing (3.5), geology (3.5), civil engineering (1.5)

Year 2- structural engineering (5.5), dynamics (4), mathematics (2), programming (5), industrial economics (4), electrical circuits (3), cement chemistry (2), geodesy (2.5), optics (2.5), material properties (2), beams and frames (3.5), electives (4)

Year 3- soil mechanics (4), industrial economics (4), plate stretching and bending (4), hydraulics and hydrology (4), geophysics (4), rock mechanics (2), mining engineering (2), construction management (4), steel structure (4), house building technology (4), sanitary engineering (2), urban road and street engineering (2)

Year 4- practical experience, 1 term (0), computer-aided frame analysis (4), dams and hydro power plants (4), construction management (4), concrete structure (4), foundation engineering (4), specialization (14)

Year 5- construction management (4), computer-aided cost estimation (4), soil mechanics (4), structural engineering (4), steel structures (4), specialization (4), thesis project (12).

Electrical Engineering (*Elektroteknik*): The 4.5-year, 180-point *Civilingenjörsexamen* program provides an education in theoretical and basic technical subjects. The electrical engineering program is offered at Chalmers University of Technology, the Royal Institute of Technology, Luleå University College and Institute of Technology, and the University of Lund. The program consists of lectures, group work focusing on problem solving, laboratory work (which accounts for 15% of the time), and homework. The first 2 years consist of all compulsory subjects that emphasize basic mathematics, computer science, and theoretical electrotechnology and physics. The third year concentrates on electrotechnical subjects. During the fourth year, the student may specialize in one area such as electrical power, communication, computer technology, and electronics. The final term is devoted to work on the thesis project, which can be a group or individual effort. Seventeen weeks of work experience during the summers is required in electrotechnical or mechanical factories, laboratories, or other areas. This typical program is offered at Chalmers University of Technology (1992-1993):

Year 1- introductory courses (2.6 points), English (4), calculus and linear algebra (20), computer programming (2.5), electrical network theory (8), introduction to switching circuit theory and logic design (1), electronic circuits (2)

Year 2- statistics (3), mechanics (9), switching circuit theory and logic design (4), physics (9), computer programming (4.5), Fourier analysis (3.5), numerical analysis (3.5), analytic functions (3.5)

Year 3- electrical network theory (3.5), electrical measurements (4.5), electromagnetic field theory (8), switching circuit theory and logic design (3.5), electronic circuits (7.5), signal processing (3), automatic control (3.5), semiconductor devices (3.5), electric power engineering (3)

Year 4/5- information retrieval (.5), two projects (10.5), specialization (in the areas of electrical power, communication, computer technology, or electronics) (29), thesis (20).

Geotechnology (*Geoteknologi*): The 4.5-year, 180-point *Bergsingenjörsexamen* (Master of Science in Geotechnology) program is offered at Luleå University College and Institute of Technology. Beginning in 1992, no new students were admitted to the program. A new *Industriell Kemi* (Industrial Chemistry) program has been created. The first year of the geotechnology program consisted of mathematics, natural sciences, and technology, with the second and third years consisting of basic technology courses. For the remainder of the program, students chose a specialization in either mineral processing and metallurgy, applied geochemistry, mining engineering, or prospecting engineering. Practical work experience required 4 months during the summers, except for the specialization in mining engineering which required work experience during the first term of the fourth year (no credit awarded). A final thesis project was completed during the last year.

Industrial Engineering and Management (*Industriell Ekonomi*): The focus of the 4.5-year, 180-point *Civilingenjörsexamen* program is the relationship between industry and engineering. The program readies the student for employment in marketing, production control, investment planning, and other technical and economic business areas and is offered at Chalmers University of Technology, University of Linköping, Luleå University College and Institute of Technology, and the Royal Institute of Technology. The first year consists of basic courses in mathematics, physics, and engineering/management. During the third semester, students specialize in mechanical or electrical engineering, with optional courses in technical and economic English, French, German, Japanese, Russian, and Spanish, with an emphasis on business administration courses. During the remainder of the program, the specialization is narrowed further, the final term being devoted to the thesis project. This typical program is offered at Linköping Institute of Technology (1992-1993):

Year 1- mathematics (17.5), economics (9), physics (5.5), industrial engineering (5.5), mechanics (2.5), optional course in English (2)

Year 2- mathematics/statistics (4), introduction to operations research (6.5), programming (3.5), accounting and budgeting (3.5), mechanics (5.5), managerial economics (7.5); mathematics (2), solid mechanics (3.5), and construction materials (2); or mathematics (3.5), circuit theory (2.5), and computer hardware and architecture (3.5)

Year 3- statistics (3.5), numerical methods (3), operations research (3), physics (2.5); mechanical engineering design (4) and applied thermodynamics and fluid mechanics; or electromagnetic field theory (3), electronic theory (3.5), computer hardware and architecture (4.5), electives

Year 4- strategic planning (2), corporate planning (4), law (2.5), electrical engineering (3); electrical engineering (3) and production engineering (3.5) or production engineering (1.5), automatic control, electives

Year 5- law (2.5), ergometric and organization of industrial work (1.5), electives, thesis project (15).

Mechanical Engineering (*Maskinteknik*): The 4.5-year, 180-point *Civilingenjörsexamen* program offers specialization in a wide variety of areas such as machine design, manufacturing systems, production engineering, shipbuilding, wood technology, transportation, or energy. The program is offered at Chalmers University of Technology, the Universities of Linköping and Lund, Luleå University College and Institute of Technology, and the Royal Insti-tute of Technology.

The first 2 years of the program consist of basic courses in mathematics, mechanics, physics, and computer science. The third year is composed of applied studies in mechanical engineering and a chosen field of specialization. During the fourth year, the student continues a field of study within a chosen specialization. The thesis project, which can be group or individually based in a theoretical or experimental area, is completed during the final term, and is sometimes done in cooperation with an industrial company. The program also includes 17 weeks of work experience in the field. This typical program with mechanical/machine design specialization is offered at the Royal Institute of Technology (1992-1993 program):

Year 1- mathematics (15 points, 240 hours of lectures), introduction to mechanical engineering (4 points, 24 hours of lectures, 48 hours of exercises), systematic computer programming (3.5 points, 18 hours of lectures, 36 hours of exercises, 9 hours of supervised sessions), mechanics (6 points, 84 hours of lectures), phys-ics (7.5 points, 44 hours of lectures, 24 hours of exercises, 36 hours of laboratory), work environment (2 points, 24 hours of lectures, 8 hours of laboratory).

Year 2- numerical methods (3.5 points, 54 hours of lectures, 6 supervised sessions), mathematics (3 points, 54 hours of lectures), mechanics (6 hours, 96 hours of lessons), physics (2.5 points, 18 hours of lectures, 12 hours of exercises, 4 hours of laboratory), applied thermodynamics (6 points, 54 hours of lectures, 54 hours of calculation exercises), machine elements (8 points, 90 hours of lectures, 18 hours of lessons), strength of materials and solid mechanics (10 points, 42 hours of lectures, 100 hours of exercises, 2 hours of laboratory), and elective courses.

Year 3-4.5- metallic construction materials (4 points, 18 hours of lectures, 27 hours of laboratory), graphical work stations (3 points, 24 hours of lectures, 8 hours of exercises, 9 hours of laboratory, 6 supervised sessions), systematic computer programming using Simula (4 points, 24 hours of lectures, 30 hours of exercises, 5 hours supervised sessions), basic production engineering (4 points, 32 hours of lectures, 18 hours of exercises, 10 hours of laboratory), servo systems (2 points, 12 hours of lectures, 12 hours of exercises, 6 hours of laboratory), basic electrical engineering (10 points, 60 hours of lectures, 30 hours of laboratory), computer support in design and manufacturing (5 points, 32 hours of lectures, 16 hours of exercises, 24 hours of laboratory), program modules in CADCAM (5 points, 30 hours of lectures, 20 hours of exercises, 20 hours of laboratory), introduction to machine design (5 points, 24 hours of lectures, 36 hours on project work), advanced strength of materials and solid mechanics (2 points, 18 hours of lectures, 18 hours of exercises), and optional courses.

The 12-point degree project, 3 months of full-time work, is intended to demonstrate the ability to apply knowledge acquired to independently master a specified task. Seventeen weeks of work experience in industrial environments in the area of the major is required and may be completed in the country or abroad.

Other 4.5-Year Engineering Programs: applied physics/electrical engineering (*teknisk fysik- och elektroteknik*), chemical engineering/physics (*kemiteknik med fysik*), computer science and engineering (*datateknik*), engineering physics (*teknisk fysik*), environmental planning and design (*samhällsbyggnadsteknik*), environmental/water engineering (*miljö- och vattenteknik*), industrial working environment (*industriell arbetsmiljö*), materials technology (*materialteknik*), molecular biotechnology (*molekulär bioteknik*), surveying (*lantmäteri*), and vehicle engineering (*farkostteknik*).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Bergsingenjörsexamen (Master of Science in Geotechnology) 160, 180 points	Not offered
Civilingenjörsexamen på (field) (Master of Science in [field]) 160, 180 points	*Civilingenjörsexamen på (field)* (University Diploma in [field])* 180 points

* May also be referred to as the Master of Science in (field) if the degree includes 80 points in the major subject.

Licentiate and Doctorate Programs: Upon completion of the first degree, students may enter either a licentiate or a doctoral program. The *Teknisk Licentiatexamen* (Licentiate in Engineering) is a 2-year, 80-point program, the first 2 years of the doctoral program. Admission requires completion of the first degree. About 1 year of coursework is required and the remainder of the program is research ending with a thesis; graduates may continue in the doctoral program.

The *Teknisk Doktorsexamen* (Doctor of Philosophy) requires completion of the first degree and a minimum of 4 years, or 160 points, and consists of a year of advanced coursework with the remainder of time spent in research. Graduate education is organized along the lines of research projects. A student might work within a group on several departmental projects. The final dissertation must be written and publicly defended. It might be a summary of many papers that have been published or accepted for publication in internationally recognized scientific journals; fewer monographs are being written.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Teknisk Licentiatexamen (Licentiate in Engineering) 80 points	No change
Teknisk Doktorsexamen (Doctor of Philosophy) 160 points	No change

Lower Level Engineering

Lower Level Engineering (***Ingenjörsutbildning***) programs were recently created and are now offered at 23 institutions. The purpose of this level is to provide the Swedish labor market with engineers able to enter the field at mid-level with skills between those of a full engineer and the technician. There are a variety of basic engineering programs that offer both theoretical and applied approaches to coursework. Common to all programs is a base in mathematics, computer science, and science. All programs contain technical subjects, including environmental science in the field related to the program. Programs also include nontechnical subjects such as economics, language, oral and written communication, and ergonomic science. All programs contain an examination project that may be carried out in conjunction with a commercial company. Practical work experience of from 6 to 12 weeks is required for which no credit is given.

Control and Maintenance (***Driftingenjörsutbildning***): The 2-year, 80-point engineering program, leading until July 1993 to the *Driftingenjörsexamen* (Bachelor of Science in Control and Maintenance), required completion of the 2-year control and maintenance technical program. Since 1993 the control and maintenance program has been replaced by a 3-year, 120-point program, leading to the *Ingenjörsexamen på Driftingenjörslinjen* (University Diploma in Engineering/Lower Level in Control and Maintenance). The program is offered at Chalmers University of Technology, the Royal Institute of Technology, University of Lund, and the University Colleges of Mid Sweden and Kalmar.

The program in control and maintenance requires courses in mathematics and physics (20 points), automatic control and electro-technical problems, switches, control and maintenance, and areas of specialization. The program consists of about 20-30 hours per week of lectures and laboratories.

Fire Protection Engineering (***Brandiingenjörslinjen***): The 2.5-year, 100-point program in fire protection engineering, leading until July 1993 to *Brand-*

ingenjörsexamen (University Certificate in Fire Protection Engineering) and thereafter to *Brandingenjörslinjen* (University Diploma in Fire Protection Engineering), is offered at the University of Lund. Admission to the program requires 3 years of mathematics, physics, and chemistry in upper secondary school or the equivalent.

Other Programs: A 1-year, 40-point and 2-year, 80-point program, both leading to *Ingenjörsexamen på (field)*, officially translated until July 1993 as University Certificate in (field) and thereafter as University Diploma in (field), are offered in lower level engineering fields. Beginning in 1993, 3-year, 120-point programs also leading to *Ingenjörsexamen på (field)* are also available. Programs are offered in chemical engineering (*kemiingenjör*), civil engineering (*byggnadsingenjör*), computer engineering/electronics (*data- och elektronik*), computer engineering (*dataingenjörs*), electrical engineering (*elektroingenjör*), mechanical engineering (*maskintekingenjör*), production technology (*verkstadsingenjör*), and textile engineering (*textilingenjör*).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Brandingenjörsexamen (University Certificate in Fire Protection Engineering) 100 points	*Brandingenjörslinjen* (University Diploma in Fire Protection Engineering) 100 points
Driftingenjörsexamen (Bachelor of Science in Control and Maintenance) 80 points	*Ingenjörsexamen på Driftingenjörslinjen* (University Diploma in Engineering/Lower Level in Control and Maintenance) 120 points
Ingenjörsexamen på (field) (University Certificate in [field]) 40, 80 points	*Ingenjörsexamen på (field)* (University Diploma in Engineering/Lower Level [field]) 80, 120 points

Nautical Programs

Marine Engineering (***Maskintekniker*** **and** ***Sjöingenjör***): The 2-year marine engineering program, leading to the *Maskinteknikerexamen* (translated until July 1993 as University Certificate in Marine Engineering and thereafter University Diploma in Marine Engineering/Lower Level), is offered at Chalmers University of Technology and the University College of Kalmar. Admission requires completion of the 2-year control and maintenance line in upper secondary school or the equivalent. The program includes courses in marine engineering, chemistry, physics, mathematics, materials, electronics, control and maintenance, English, ship administration, ship technology, computer science, and the project work. Graduates of the program qualify for employment in marine engineering or further study in the marine engineering program (*sjöingenjör*).

The 1-year, 40-point program in advanced marine engineering, leading to *Sjöingenjörexamen* (translated until July 1993 as Bachelor of Science in Marine Engineering and thereafter as University Diploma in Marine Engineering), is offered at both institutions and consists of advanced coursework in marine engineering. Admission requires completion of the 2-year *Maskinteknikerexamen* (university marine engineering program). The program consists of courses in mathematics (3 points), English (2), marine law (2), economics (2), environmental engineering and fire protection (3), marine engineering (2), material (2), mechanical engineering (5), automatic control (4), electrical engineering (5), control engineering (3), project (4), and elective (3).

There is also a 3-year, 120-point program for those who have not completed the marine technology program. The program is a combination of studies from the 2-year marine engineering program (*Maskintekniker*) and the 1-year advanced program (*Sjöingenjör*) and leads to the *Sjöingenjörsexamen*. Students are also able to enter this program directly from upper secondary school.

Nautical Science/Mate and Master Levels (***Styrman*** **and** ***Sjökapten*****)** programs are offered at Chalmers University of Technology and the University College of Kalmar. The 2-year, 80-point program nautical science/mate level, leading to *Styrmansexamen* (translated as University Certificate in Nautical Science until July 1993 and thereafter as University Diploma in Nautical Science/Mate Level), qualifies the graduate to work on all ships of all speeds and be in command on ships of limited size and speed. The 2-year, 40-point program in advanced nautical science/master level leading to *Sjökaptensexamen* (translated until July 1993 as Bachelor of Science in Nautical Science and thereafter University Diploma in Nautical Science/Master Mariner Level), qualifies the graduate to be the officer in command on all ships. The program requires completion of the *styrmanslinjen* and a long practical period. There is also a 3-year, 120-point program for those who have not completed the 2-year program in nautical science/mate level but entered directly from upper secondary school. The program is a combination of studies from the 2-year nautical science/mate level and 1-year master level studies and leads to the *Sjökaptensexamen*.

In addition to the general requirements, admission to the 2-year program requires 2 years of mathematics and either 2 years of mechanical engineering or the equivalent or completion of one of the following: physics from a 3-year line, technology, electronics, transportation, processing, workshop, or natural science from a 2-year line in upper secondary school, or the equivalent. In addition, candidates must also have practical experience that includes being at sea on a ship of at least 20 tons for 24 months, including at least 9 months on a coastal ship, and on a commercial or fishing ship of at least 200 tons, and being in certifiable good health. Applicants without the required practical experience may be admitted to the 3-year program but are required to acquire an additional year of practical experience during the program.

The 2-year program consists of courses in mathematics, Swedish, economics, physics, chemistry, ship engineering, health and care, liaison service, seamanship, navigation, docking, computer science, English, personnel administration, labor law, engineering for nautical science, fire protection, environmental technology, transportation engineering, nautical law, meteorology, and maintenance. Classes consist of working groups, labs, exercises, navigation simulations, and practice on equipment.

The 1-year advanced master level program consists of further studies in nautical science, additional command courses, economics, administration, and specialization courses. The classes include group work, exercises, labs, and work on a simulator in a computer lab. The 3-year program combines the 1- and 2-year programs.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Maskinteknikerexamen (University Certificate in Marine Engineering) 80 points	*Maskinteknikerexamen* (University Diploma in Marine Engineering/Lower Level) 80 points
Sjöingenjörsexamen (Bachelor of Science in Marine Engineering) 40, 120 points	*Sjöingenjörsexamen* (University Diploma in Marine Engineering) 40, 120 points
Styrmansexamen (University Certificate in Nautical Science) 80 points	*Styrmansexamen* (University Diploma in Nautical Science/Mate Level) 80 points
Sjökaptensexamen (Bachelor of Science in Nautical Science) 40, 120 points	*Sjökaptensexamen* (University Diploma in Nautical Science/Master Mariner Level) 40, 120 points

Technician Level Programs

The 1-year, 40-point to 2-year, 80-point technician level programs are taught at all schools that offer engineering. There are two types of programs, vocational and technical. Up until July 1993 the upper secondary schools offered 4-year programs in technical studies. Much of the material covered in the fourth year has been moved to the tertiary technology programs. Many students who terminated their study with this fourth year in upper secondary school are now required to complete a 2-year tertiary program in order to have the same competency. These new programs are intended to be more scientifically based.

Technical (*Teknikerutbildning*): The 2-year, 80-point technical programs leading to *Högskoleexamen på (field)*, translated until July 1993 as University Certificate in (field) and thereafter as Diploma in (field), are more practical than theoretical. Admission requires completion of a 2-year technical program in upper secondary school. Students who continue to study in the 4.5-year program will virtually start from the beginning of that program with very little, if any, transfer credit. Programs are in the fields of control and maintenance (*drifttekniker*), manufacturing/maintenance (*produktionstekniker*), and textile and clothing technology-manufacturing technology/product design/marketing (*textil- och konfektionsteknik-tillverkningsteknik/produktionsutformning/merkantil*) offered by the University College of Borås.

Control and Maintenance (*Driftteknikerlinjen*): The program, leading until July 1993 to *Driftteknikerexamen* (University Certificate in Control and Maintenance); thereafter to *Högskoleexamen på Driftteknik* (Diploma in Control and Maintenance), is offered at Chalmers University of Technology,* the Royal Institute of Technology University of Lund, and the University Colleges of Mid-Sweden, Kalmar, Karlskrona,* Trollhättan, Mälardalen,* and Örebro (*program not offered after 1992).

The technical certificate requires a 1-year internship with industry. Chalmers University of

Technology requires the following courses: mathematics (4 points), English (2), technical physics (4), automatic control (4), electrical engineering and control of electrical devices (4), environmental systems (2), economic and personnel administration (3), project (3), refrigeration and heat pump technology (1), switch theory (2), chemistry (2), maintenance technology (1), and power and heat technology (8).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på (field) (University Certificate in [field]) 80 points	*Högskoleexamen på (field)* (Diploma in [field]) 80 points
Driftteknikerexamen (University Certificate in Control and Maintenance) 80 points	*Högskoleexamen på Driftteknik* (Diploma in Control and Maintenance) 80 points

Higher Technical Vocational Programs

Vocational Programs (*Yrkesteknisk*): The 1.5-year, 60-point vocational programs, also known as Higher Technical Vocational Programs (*Yrkesteknisk Högskoleutbildning/YTH*), are the most practical in nature and provide training in a specific occupation. They led to the *Högskoleexamen i/på (field)* (University Certificate in [field]) until July 1993 and thereafter to *Yrkesteknisk Högskoleexamen (field)* (University Diploma in Applied [field]). Admission to a program requires either completion of a 2-year vocational upper secondary school program in the same field or 4 years of work experience in the same field. Programs include some theoretical coursework but are mainly vocational in nature and normally do not transfer credit to the regular programs. The programs are offered at Chalmers University of Technology, the Royal Institute of Technology, Universities of Lund and Stockholm, Luleå University College and Institute of Technology, and the University Colleges of Falun/Borlänge, Jönköping, Karlskrona/Ronneby, Karlstad, Mälardalen, Mid Sweden, and Skövde.

A sample of vocational programs for industry includes: construction industry (*byggnadsindustri*), electronics (*elektronikindustri*), food industry (*livsmedelsindustri*), graphic industry (*grafisk industri*), industrial control systems (*styr- och reglerteknik*), plastics and rubber industry (*plast- och gummiindustri*), process industry (*processindustri*), maintenance technology (*verkstadindustri*), pulp and paper industry (*pappers- och pappersmasseindustri*), sawmill industry (*sågverksindustri*), steel industry (*stålindustri*), textile/clothing manufacturing (*textil- och konfektionsindustri*), vehicle industry (*fordonsteknik*), and wood industry (*träindustri*).

The programs had their beginnings in the upper secondary schools as advanced vocational training courses. During the reform in 1977, the programs were moved into tertiary institutions because the courses were postsecondary level.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen i/på (field) (University Certificate in [field]) 60 points	*Yrkesteknisk Högskoleexamen (field)* (University Diploma in Applied [field]) 60 points

Hotel and Restaurant

Catering/Dietetics (*Kostekonomi/Kostterapi*): A 3-year, 120-point program in catering, leading until July 1993 to *Kostekonomexamen* (Bachelor of Science in Catering), and in dietetics, leading until July 1993 to *Dietistexamen* (Bachelor of Science in Dietetics) and afterwards both programs leading to *Kandidatexamen i Hushållsvetenskap* (*Dietist/Kostekonom*) (Bachelor of Home Economics [Dietetics/Catering]), is offered at the Universities of Uppsala, Göteborg, and Umeå. Both programs involve the selection and planning of balanced meals that promote proper health. The catering program focuses on food management and production and leads to administrative positions in institutional and commercial food service facilities.

The dietetics program examines the role of nutrition in prevention, management, and treatment of disease in hospitals. A 4-year, 160-point program, leading to *Magisterexamen i Hushållsvetenskap* (*Dietist/Kostekonom*) (Master of Home Economics [Dietetics/Catering]), has recently been added and will involve more specialization and in-depth coursework. Until fall 1987, there had been a 2.5-year program in food science and economics, leading to *Högskoleexamen på Linjen för Kost och Näringsekonomi* (University Certificate in Food Science and Economics). It is now incorporated into dietetics and catering. There was also a 1.5-year vocational certificate program (*YTH*) for the catering industry.

Beyond the general requirements for admission, both programs require a minimum of 1 year of mathematics, and 2 years of natural sciences in upper secondary school or the equivalent. The programs include the following:

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Catering- introduction (3 points), general chemistry and biochemistry (9), physiology (2), meal preparation (3), nutrition (7), sociology of nutrition (3), food science and microbiology (13), production techniques (13), dietetics (7), food and personnel administration (10), practice (10), psychology (5), accounting and budgeting (5), profitability and financing (6), economic control (6), statistics (3), administration and presentation techniques (5), thesis project (10)

Dietetics- introduction (3), general chemistry and biochemistry (9), physiology (2), meal preparation (6), food instruction (7), sociology of foods (3), food science and microbiology (13), physiology (8), dietetics (33), psychology and teaching (11), hospital administration (2), practice (10), statistics (3), thesis project (10).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på (field) (University Certificate in [field]) 60 points	*Bevis* (Certificate) 60 points
Högskoleexamen på Linjen för Kost och Näringsekonomi (University Certificate in Food Science and Economics) 100 points	Not offered
Dietistexamen (Bachelor of Science in Dietetics) 120 points	*Kandidatexamen i Hushållsvetenskap (Dietist/Kostekonom)* (Bachelor of Home Economics [Dietetics/Catering]) 120 points
Kostekonomexamen (Bachelor of Science in Catering) 120 points	
Not Offered	*Magisterexamen i Hushållsvetenskap (Dietist/Kostekonom)* (Master of Home Economics [Dietetics/Catering]) 160 points

Human Resources

Human Resource Development and Labor Relations (*Personal- och Arbetslivsfrågor*): A 2-year, 80-point program, leading until July 1993 to *Högskoleexamen avseende grundläggande Utbildning för Personal- och Arbetslivsfrågor* (University Certificate in Personnel Management) and thereafter to *Högskoleexamen (field)* (Diploma in [field]); a 3-year, 120-point program and a 3.5-year, 140-point program, both leading until July 1993 to *Högskoleexamen/ Filosofie Kandidatexamen i Personal- och Arbetslivsfrågor* (Bachelor of Science in Human Resource Development and Labor Relations) and afterward to *Kandidatexamen i Personal- och Arbetslivsfrågor* (Bachelor of Human Resource Development and Labor Relations); or a 4-year, 160-point program, available since July 1993 leading to *Magisterexamen i Personal- och Arbetslivsfrågor* (Master of Human Resource Development and Labor Relations), are offered in human resource development and labor relations. The Universities of Stockholm, Uppsala, Linköping, Lund, Göteborg, and Umeå and the University Colleges of Örebro, Växjö, Karlstad, and Östersund offer at least one of these programs. Available is specialization in general personnel management (*allmänt personalarbete*), general personnel management and education planning (*personalarbete med utbildningsplanering*), applied sociological analysis (*sociologiskt utredningsarbete*),

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen avseende grundläggande Utbildning för Personal- och Arbetslivsfrågor (University Certificate in Personnel Management) 80 points	*Högskoleexamen (field)* (Diploma in [field]) 80 points
Högskoleexamen/ Filosofie Kandidatexamen i Personal- och Arbetslivsfrågor (Bachelor of Science in Human Resource Development and Labor Relations) 120, 140 points	*Kandidatexamen i Personal- och Arbetslivsfrågor* (Bachelor of Human Resource Development and Labor Relations) 120, 140 points
Not offered	*Magisterexamen i Personal- och Arbetslivsfrågor* (Master of Human Resource Development and Labor Relations) 160 points

management and organization (*organisation*), and employment law (*arbetsrätt*).

In addition to the general requirements, the special admission requirements are 1 year of mathematics, 2 years of social science in upper secondary school or the equivalent, and 1 year of full-time work experience or the equivalent.

The program includes courses in labor law, economics, organization theory, personnel administration, sociology of the workplace, psychology, society and behavior science, and methodology. The 3- to 4-year programs offer the same type of program in the first 3 years with the fourth year allowing more specialization and electives. The 2-year program is essentially the first 2 years of any of the longer programs and offers the option to continue.

Journalism

Journalism (*Journalistik*): A 3-year, 120-point program in journalism, leading until July 1993 to *Högskoleexamen på Journalistlinjen* (University Certificate in Journalism) and thereafter to *Kandidatexamen på Journalistlinjen* (Diploma in Journalism), is offered at the Universities of Göteborg, Stockholm, and Mid Sweden University. The program had been a 2-year, 80-point program, leading to *Högskoleexamen på Journalistlinjen* (translated until July 1993 as University Certificate in Journalism, thereafter Diploma in Journalism), but was raised to 3 years to increase the depth of study. It provides training in mass media, organizations, government, and business. There is also a 1-year, 40-point program, leading until July 1993 to *Högskoleexamen på Journalistlinjen* (Master of Arts in Journalism) and thereafter to *Magisterexamen på Journalistlinjen* (Master of Journalism), for those who have completed a 3-year general academic degree and wish to specialize in their major subject area.

Admission to the program requires meeting the general requirements and also completing 3 years of Swedish, history, and mathematics, and 2 years of social sciences in upper secondary or the equivalent. A special writing test for admission is being developed.

The courses in the program consist of tutorials, lectures, seminars, practical exercises, and assignments. The examination at the end of each course consists of both written tests and completed assignments. A sample program from Mid Sweden University College follows:

Year 1- journalism and communication (5 points), political science (6), journalistic methods (3), language and style (4), editorial training (2), mass media (5), radio and television broadcasting (8), layout and editing (4), editorial training (4)

Year 2- political science (3), roles within the profession (2), scientific methods (3), essay writing (4), editorial training (3), mass media (4), internship (20)

Year 3- roles within the profession and ethics (3), economics (4), mass media (3), language and style (3), English (5), and one of the following: press, radio, or television (5), legal science and law (4), scientific methods (3), and essay writing or project work (10).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på Journalistlinjen (University Certificate in Journalism) 80 points	*Högskoleexamen på Journalistlinjen* (Diploma in Journalism) 80 points
Högskoleexamen på Journalistlinjen (Bachelor of Arts in Journalism) 120 points	*Kandidatexamen på Journalistlinjen* (Bachelor of Journalism) 120 points
Högskoleexamen på Journalistlinjen (Master of Arts in Journalism) 40 points	*Magisterexamen på Journalistlinjen* (Master of Journalism) 40 points

Law

Law (*Juridik*): There are two levels of degrees awarded in the area of law: a 2-year, 80-point basic law program, until July 1993 *Högskoleexamen avseende grundläggande Rättsutbildning* (University Certificate in Law) and thereafter *Högskoleexamen på Rättsutbildning* (Diploma in Law), and a 4.5-year, 180-point program, leading to *Juris Kandidatexamen*, translated until July 1993 as Master of Laws [LLM] and thereafter as University Diploma in Laws. The degrees are awarded at the Universities of Göteborg, Lund, Stockholm, Umeå, and Uppsala.

In addition to the general requirements for admission, both programs require 3 years of Swedish and 2 years of social sciences in upper secondary school or the equivalent.

The 2-year program qualifies the students for employment as paralegal assistants or employment in business or financial institutions. The first 2 semesters follow the longer law program and the last semester consists of special or more advanced courses. After completion of the 2-year program, graduates may continue in the longer program.

The 4.5-year law degree qualifies the graduate for entrance into occupations such as prosecutor, police chief or commissioner, lawyer, and positions in banks or corporations. The program consists of 140 points of compulsory courses and the remainder specialization stressing case studies. A sample program from the University of Uppsala follows:

Semester 1- introduction to law and constitutional law, including practice in technique and methods in legal problems and arguments, and training in oral and written descriptions (18 points)

Semester 2/3- first course in civil law, which covers negotiation law, special and general contract law, liability law, labor law, property law, bankruptcy law, copyright law, damage law, business law, comparative studies, and international law (40)

Semester 4- criminal law and procedure, including international and comparative perspectives (22)

Semester 5- business economics, corporate and tax law including personal taxes, an introduction to corporate law, business economics, and trade tariffs, with sections on comparative corporate law and international accounting (18)

Semester 6- last semester of required courses, including administrative law and international law involving public, European Communities, and international private law (22)

Semesters 7 to 9- various advanced courses in areas covered during the first 6 semesters and a project. The last semester of this part of the program is composed of the thesis project and methods studies (40).

Master's in Law (*Juridisk-Samhälls-vetenskaplig examen*) is a 3.5- to 4-year program that was last awarded in 1974, containing an equal amount of law and social science. The ***Juristexamen*** (Master of Laws) was awarded upon completion of the 4-year program offered until 1977, and was a program similar to the ***Juris Kandidatexamen***.

Licentiate in Law (*Juris Licentiatexamen*) is a 2-year, 80-point program beyond the ***Juris Kandidatexamen*** and requires completion of the first degree. The program is the first 2 years of the doctoral program and graduates may complete the remainder of the doctoral program. A thesis is required in one law specialization, and it must be defended in a seminar.

Doctor of Laws (*Juridisk Doktorsexamen*) is a 4-year, 160-point program that requires completion of the ***Juris Kandidatexamen***. This program includes advanced coursework with a dissertation that requires a public defense.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen avseende grundläggande Rättsutbildning (University Certificate in Law) 80 points	*Högskoleexamen på Rättsutbildning* (Diploma in Law) 80 points
Juris Kandidatexamen (Master of Laws [LLM]) 180 points	*Juris Kandidatexamen* (University Diploma in Laws) 180 points
Juris Licentiatexamen (Licentiate in Laws) 80 points	No change
Juridisk Doktorsexamen (Doctor of Laws) 160 points	No change

Library Science

Library Science (*Bibliotekarieutbildning*): Several programs in the area of library and information science are offered at the University College of Borås and the University of Umeå. A half-year, 20-point course, leading until July 1993 to ***Högskoleexamen på Bibliotekarielinjen*** (Bachelor of Arts in Librarianship) and thereafter to ***Filosofie Kandidatexamen på Bibliotekarielinjen*** (Bachelor of Library and Information Science) at Borås, requires completion of a 3-year university degree and 2 years of working experience in the field of information. The program consists of methods (3 points), organization and management (7), and thesis project (10). A 3-year, 120-point program begun in 1993, leading to the ***Filosofie Kandidatexamen på Bibliotekarielinjen*** (Bachelor of Library Science), includes these same library science courses and adds study of a major subject. The admission requirement is completion of upper secondary school.

A 2-year, 80-point program at Borås and Umeå requires completion of a 2-year program and qualifies the graduate to work in research, business, public, or school libraries. The program at Borås consists of courses in libraries and society (6 points), which include the structure of libraries, the state, society, and libraries, the history of public and research libraries, the education and literary systems, library research information markets; information recovery (20), which includes basic cataloging, classification, indexing, database construction, general and bibliography reference, government publications, information resources, information networks; and man and the library

(14), which consists of general information and cultural work, child and adult literature, reference work, and searching methods. There is also a 4-year, 160-point program beginning in 1993, leading to a *Filosofie Magisterexamen på Bibliotekarielinjen* (Master of Library Science and Information Science), that includes the same 80 points of library science courses listed above but includes study in other areas. The admission requirement is completion of upper secondary school.

An optional year follows the 2-year, 80-point program at Borås and consists of a methods course (3), which includes advanced methods in library research and information science; organization and management (7), which consists of systems and organization theory, economics, management, marketing and personnel, evaluations, and development; electives (10); and thesis project (20 points or two 10-point projects including working within a library). A fifth semester will be added that will contain more electives.

There is a 1-year, 40-point program at Borås that until July 1993 led to the *Högskoleexamen på Påbyggnadslinjen Dokumentalistutbildning* (University Supplementary Diploma in Librarianship [Information Science]) and thereafter to *Högskoleexamen på Bibliotekarielinjen* (Diploma in Library and Information Science), that requires a doctoral degree for admission and provides intensive training in the field of library and information science.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på Bibliotekarielinjen (Bachelor of Arts in Librarianship) 20 points	*Filosofie Kandidatexamen på Bibliotekarielinjen* (Bachelor of Library and Information Science) 20, 120 points
Högskoleexamen på Bibliotekarielinjen (University Diploma in Librarianship) 80 points	*Filosofie Magisterexamen på Bibliotekarielinjen* (Master of Library and Information Science) 80, 160 points
Högskoleexamen på Påbyggnadslinjen Dokumentalistutbildning (University Supplementary Diploma in Librarianship [Information Science]) 40 points	*Högskoleexamen på Bibliotekarielinjen* (Diploma in Library and Information Science) 40 points

Medical Fields

Professional Programs

Dentistry (*Tandläkarutbildning)*: Training is offered at Karolinska Institute School of Dentistry (the oldest training center for dentists in the country) and is located at Huddinge, a suburb of Stockholm, and also at the Universities of Göteborg, Lund, and Umeå.

The program leading to the first professional degree in dentistry, *Tandläkerexamen* (translated as University Dental Degree until July 1993 and thereafter as University Diploma in Dentistry), requires 9 semesters (180 points) of study followed by a year of clinical duty at government dental clinics, known as preregistration, before the student may practice. At the end of the year there is a final written test. The curriculum is divided into five parts: basic sciences such as anatomy, cell biology, chemistry, general medicine, general pathology, histology and physiology, preventive dentistry, clinical diagnosis, clinical treatment, and community dentistry. Specialty training is offered in all dental specialties outside the university system in the hospital setting. The training includes oral radiology, oral surgery, etc. Certificates of completion with the name of the specialty and the number of points are issued.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Tandläkarexamen (University Dental Degree) 180 points	*Tandläkarexamen* (University Diploma in Dentistry) 180 points
Licentiatexamen i Odontologi/Odontologisk Vetenskap (Licentiate in Odontology/Dental Science) 80 points	No change
Doktorsexamen i Odontologi/Odontologisk Vetenskap (Doctor of Odontology/Dental Science) 160 points	No change

Graduate dentists interested in research may undertake a 2-year, 80-point postgraduate training course leading to a *Licentiatexamen i Odontologi* (Licentiate in Odontology) program or study for a *Doktorsexamen i Odontologi* (Doctor of Odontology). The 4-year, 160-point doctoral program requires special courses, literature studies, and the preparation of a thesis. These studies are normally undertaken after the conferral of the dental degree; however, students who are still completing degree studies may enter the research program.

Medicine (***Läkarutbildning***): The 5.5-year, 220-point program for the first professional degree in medicine, *Läkarexamen* (translated until July 1993 as University Medical Degree and thereafter as University Diploma in Medicine), is offered at the Universities of Göteborg, Linköping, Lund, Umeå, and Uppsala and the Karolinska Institute in Stockholm. Medical studies are subject to government review and follow curricula guidelines laid down by the Swedish Parliament. The federal guidelines give a certain amount of latitude to the individual institutions in developing medical training programs and there is some variation in the offerings of the six institutions. Linköping has been a leader in the country in developing a different approach to medical studies built on project groups, which more closely link patient care with the basic studies. Karolinska Institute and the University of Uppsala have emphasized exposure to research early in the curriculum. Karolinska has also combined and developed an M.D./Ph.D. program. All programs, however, cover a standard medical curriculum.

Admission to medical studies requires upper secondary school completion, which includes substantial course work at the higher levels in Swedish, English, mathematics, physics, and chemistry.

> The program at Karolinska Institute includes anatomy (14 points), general chemistry (2), cell biology and genetics (6), histology (5), medical chemistry and nutrition (12), biophysics and technology (2), nervous system (7), physiology (9), endocrinology and nutrition (4), immunology (2), microbiology (5), psychology (5), pharmacology (7), toxicology (1), preclinical examinations (3), clinical course (14), statistics (2), pathology (2.5), medical block, various courses (24), clinical internal medicine (16), community health science (2), social medicine (3), occupational medicine/hygiene (1), surgery/disaster medicine (20), drug dependency (2), psychiatry (7.5), dermatology/venerology, infectious diseases (9.5), forensic medicine/oncology (3), ophthalmology/otorhinolaryngology (7), neurology (6), geriatrics (2), rehabilitation medicine (1), pediatrics (10), and obstetrics and gynecology (10).

The diploma can be issued in English on request. On conferral of this degree, graduates must undertake an internship of 21 months in order to receive license to practice from the National Board of Health and Welfare (*Socialstyrelsen*). The certificate of licensure can also be issued in English on request.

Other university medical degrees are the *Licentiatexamen i Medicinsk Vetenskap* (Licentiate in Medical Science), which requires 80 points beyond a 120-point university degree, and the *Dok-torsexamen i Medicinsk Vetenskap* (Doctor of Medical Science/Dr. Med. Sc.), which requires a university degree or equivalent work in the medical degree for admission. The course of study and thesis preparation requires 160 points.

Many short specialization courses are also offered. A certificate of completion showing the subject and the number of points will be issued.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Läkarexamen (University Medical Degree) 220 points	*Läkarexamen* (University Diploma in Medicine) 220 points
Licentiatexamen i Medicinsk Vetenskap (Licentiate in Medical Science) 80 points	No change
Doktorsexamen i Medicinsk Vetenskap (Doctor of Medical Science) 160 points	No change

Pharmacy (***Apotekarare***): Training is a 5-year, 200-point program that includes a half-year of practical training leading to the first professional degree in pharmacy, *Apotekarexamen* (translated until July 1993 as Master of Science in Pharmacy and thereafter as University Diploma in Pharmacy). The *Filosofie Magisterexamen* (Master of Science in Pharmacy) may also be awarded if the degree includes 80 points in the major subject. The program had been 160 points but was changed to 200 points beginning July 1992.

The basic course includes a 10-week introductory course (introduction to the relations between health, illness, and society), a pharmaceutical chemistry block of 30 weeks (statistics, physical and inorganic chemistry, analytical chemistry, radio-pharmacy, and organic chemistry), and a pharmaceutical biosciences block of 30 weeks including biochemistry, immunology, molecular biology, morphology and physiology, pharmacology, microbiology, and biotechnology. The first 5 semesters conclude with a 20-week block on drugs in biological systems (pharmacokinetics, pharmacodynamics, drug metabolism, toxicology, and medicinal chemistry).

The second half of the program starts with a 2-semester block covering production, formulation, and technical handling of drugs (pharmacognosy, biopharmaceutics, pharmaceutics, analytical chemistry, biotechnological production including microbiology, pharmacology and pharmaceutics, physical chemistry, and inorganic chemistry). The last of the blocks, drugs, patients, and society, requires 20 weeks and includes courses in pathology, pharmacotherapy, social pharmacy, and pharmacognosy. These courses are followed by 10 weeks of optional courses and 20 weeks of specialized courses. Before a graduate of this program can receive a licence to practice, it is required that they complete a six-month period of pharmacy practice.

Studies beyond the first degree include research study towards a *Licentiatexamen i Farmaceutisk Vetenskap* (Licentiate of Pharmaceutical Science), a 2-year, 80-point program that includes a half to 1 year of coursework. The remaining time is spent in thesis preparation, which is defended at a public seminar. The *Doktorsexamen i Farmaceutisk Vetenskap* (Doctor of Pharmaceutical Science) is a 4-year program that includes 1.5 years of coursework. The rest of the time is spent in research towards the dissertation, which must be defended publicly.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Apotekarexamen (Master of Science in Pharmacy) 160, 200 points	*Apotekarexamen* (University Diploma in Pharmacy) 200 points
	Filosofie Magisterexamen (Master of Science in Pharmacy) 160 points
Licentiatexamen i Farmaceutisk Vetenskap (Licentiate in Pharmaceutical Science) 80 points	No change
Doktorsexamen i Farmaceutisk Vetenskap (Doctor of Pharmaceutical Science) 160 points	No change

Psychotherapy (*Psykoterapi*): This is an advanced course offered at Karolinska Institute and the University of Lund for those holding degrees in medicine, psychology, social work, and other psychotherapeutic work. The program requires 60 points taken over a 3-year period and leads to the *Psykoterapeutexamen* (University Diploma in Psychotherapy) and specialist competence as an independently practicing, registered psychotherapist.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Psykoterapeutexamen (University Diploma in Psychotherapy) 60 points	*Psykoterapeutexamen* (University Diploma in Psychotherapy) 60 points

Public Health (*Folkhälsovetenskap*): A 2-year program begun in 1991-1992 at Karolinska Institute requires 80 points beyond a 120-point university degree and leads to *Licentiatexamen i Folkhäslsovetenskap* (Master of Public Health). The program is intended for doctors, nurses, natural scientists or sociologists, and others doing research or development work in one of the public health service areas.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Licentiatexamen i Folkhälsovetenskap (Master of Public Health) 80 points	No change

Speech Therapy (*Logoped*): Training is offered at Karolinska Institute in Stockholm and the Universities of Göteborg and Lund. The program was formerly a 3-year, 120-point program but was changed to a 4-year, 160-point program. The credential awarded was the *Logopedexamen* (translated as Bachelor of Science in Speech Pathology and Therapy until July 1993 and thereafter as University Diploma in Speech Pathology and Therapy). Studies begin with psychology/linguistics, training of one's own voice and basic courses in anatomy and physiology, followed by speech therapy and additional basic medical courses. The first 3 terms of the Karolinska program are taught in conjunction with Stockholm University; the remainder of the program is taught by Karolinska, which awards the degree. Students are admitted to the course at Karolinska only every fourth term.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Logopedexamen (Bachelor of Science in Speech Pathology and Therapy) 120, 140, 160 points	*Logopedexamen* (University Diploma in Speech Pathology and Therapy) 160 points

Toxicology (***Toxikologi***): Both a 20-point course (*Toxikologi* 1) and a 60-point course (*Toxikologi* 2) are offered at Karolinska Institute as a professional course to provide industry, authorities, and universities with experts for the investigation and assessment of the effects of chemical substances on human and other biological systems. The shorter course does not lead to a full credential. The 60-point course led until July 1993 to the *Toxikologexamen* (Master of Science in Toxicology) and thereafter to a *Magisterexamen* (Master of Toxicology), and is open to students holding a 120-point university degree.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Utbildningsbevis (Certificate) 20 points	*Bevis* (Certificate) 20 points
Toxikologexamen (Master of Science in Toxicology) 60 points	*Magisterexamen* (Master of Toxicology) 60 points

Veterinary Medicine (***Veterinärmedicin***): (See Agricultural Sciences section.)

Paramedical Programs

Studies in the fields of audiology, dental hygiene, dental technology, laboratory technology, nursing, occupational therapy, optical technology, and physical therapy are offered primarily in the Colleges of Health (*Vårdhögskolan* or *Hälsohögskolan*), with some programs or portions of programs offered by universities. There is no difference in the level, degree, or program offered at either the *Vårdhögskolan* or the *Hälsohögskolan*. The colleges of health report to the County Council of the county in which they are located but also follow the curriculum and degree guidelines issued by the Ministry of Education and Science. The degrees are awarded in cooperation with the county councils. The Ministry of Education and Science has decreed that the 3-year degrees in health study areas will lead to a professional University Diploma. There is also a move to incorporate some of the colleges into the university structure. (See Appendix B for a list of health colleges.)

The 1993-1994 academic year was a time of transition for the paramedical fields. Some programs built on the upper secondary health care programs were expected to emerge as full 3-year tertiary programs based on a general upper secondary academic program. At most institutions, both programs will run concurrently until the enrolled cohort graduates.

Those who complete a 120-point program either in the new curriculum or the former may enter a 20-week, 20-point predoctoral course, which includes a half-year of study of the scientific basis, theories and research for physical therapy, research theory, ethics and methodology, and a study of health and illness in the future from the physical therapy point of view. This is followed by a half-year of project work. After satisfactory completion, students may enter graduate programs in Medical Science and complete these studies in 2 additional years. Those who continue may complete coursework, literature studies, and prepare a doctoral thesis to earn a Doctor of Medical Science/Dr.M.Sc. at the Karolinska Institute or at the Universities of Göteborg, Linköping, Lund, Umeå, or Uppsala.

Audiology Assistant/Audiologist (***Hörselvårdsassistent/Hörselvård***): The audiology assistant program is a 2-year, 80-point program, leading until July 1993 to the *Hörselvårdsassistentexamen* (University Certificate in Diagnostic Audiology & Audio Therapy) and thereafter to *Högskoleexamen på Hörselvårdsassistentlinjen* (University Diploma in Diagnostic Audiology and Audio Therapy) with courses in audiology, diagnostics, rehabilitation, and audio aids. Admission requires completion of a 2-year health-related program in upper secondary school.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Hörselvårdsassistentexamen (University Certificate in Diagnostic Audiology and Audio Therapy) 80 points	*Högskoleexamen på Hörselvårdsassistentlinjen* (University Diploma in Diagnostic Audiology and Audio Therapy) 80 points
Högskoleexamen på Påbyggnadslinjen Hörselvårds (Postgraduate Certificate in Audiology) 40 points	*Högskoleexamen på Hörselvårds* (Diploma in Audiology) 40 points

The 1-year, 40-point advanced course in audiology, leading until July 1993 to the *Högskoleexamen på Påbyggnadslinjen Hörselvårds* (Postgraduate Certificate in Audiology) and thereafter to *Högskoleexamen på Hörselvårds* (Diploma in Audiology), requires completion of the *Hörselvårdsassistent* program.

Dental Hygienist (*Tandhygienist*): Training is available in an 80- to 120-point program offered in some of the colleges of health, leading to the *Tandhygienistexamen* (translated until July 1993 as University Certificate in Dental Hygiene and thereafter as University Diploma in Dental Hygiene). It includes studies in biomedical subjects, covering anatomy and physiology, biochemistry, cell biology, genetics, histology, microbiology, nutrition, pathology, and pharmacology (16 points); social and behavioral science (6); scientific methodology, including library science, word processing, project work, seminars, statistics, theory of science (5); and substantial training in odontological subjects (53). The program has required only 40 points but may be increased to 120 points.

Admission is open to graduates of the 1.5-year and 2-year upper secondary programs in dental technology, as well as gymnasium graduates who have had advanced mathematics, physics, and chemistry. The new 120-point program will be open only to 3-year upper secondary school graduates who qualify for university matriculation.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Tandhygienistexamen (University Certificate in Dental Hygiene) 40, 80 points	*Tandhygienistexamen* (University Diploma in Dental Hygiene) 80 points

Dental Nurse (*Tandsköterska*): This program is offered in the upper secondary schools (see Chapter 3).

Dental Technician (*Tandtekniker*): Training was available until 1993 at the upper secondary level. The program was elevated to the tertiary level with the first class in the autumn semester of 1993. Tertiary training for the dental technician title requires 6 semesters (120 points) and is offered at the Odontology Clinic of the University of Göteborg, the Tandvårdshögskolan of Lund University (located in Malmö), the Odontology Faculty of Karolinska Institute, Stockholm, and the Odontology Faculty of Umeå University. Admission requires a general upper secondary school education with work in Swedish, English, mathematics, and science, including advanced level physics, chemistry, and biology: stage (*etapp*) 3 level, and stage 2 level in biology.

Laboratory Assistant (*Laboratorieassistent*): Until July 1993 training required 90 points and led to *Laboratorieassistentexamen* (University Certificate in Medical Laboratory Technology) and thereafter was increased to 120 points and now leads to *Högskoleexamen på Laboratorieassistentlinjen* (University Diploma in Biomedical Laboratory Science). Admission requires upper secondary studies in mathematics, science, physics, and chemistry. In the 90-point program, students selected a specialty, such as clinical chemistry and morphological cell biology. The specialty is indicated on the degree certificate. In the 120-point program, a specialization is not required. The course contents require behavioral science (1 point), natural scientific courses including chemical engineering design, chemistry and biochemistry, and laboratory methods (11); scientific methodology, including statistical analysis, documentation with word processing, and theory of science (3); medical course with anatomy and physiology, microbiology, pathology, pharmacology, and laboratory methodology (10); a technical course in computers in analytical instrumentation, instrumental analysis, and radio-physics (10); nursing behavioral science, social science, nursing, and nursing practice (10); clinical physiology, including methodology (51); and management including information science, management, and seminars (3). There is required practical laboratory work (20) and project work (3). The program is considered one of the most difficult in the paramedical field.

Graduates of this program may take short continuation courses in specialties in the field such as blood serology. They will receive a certificate showing the name of the course and the number of points. For example the University Certificate in Laboratory Technology/Clinical Cytology (*Cytologassistentexamen*) was a 24-point program offered until July 1993.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Laboratorieassistentexamen (University Certificate in Medical Laboratory Technology) 90 points	*Högskoleexamen på Laboratorieassistentlinjen* (University Diploma in Biomedical Laboratory Science) 120 points

Nursing (*Sjuksköterska*): Training is offered primarily in the Colleges of Health Science (*Vårdhögskolan/Högskolans hälso- och sjukvårds*) programs (see Appendix B for institutional list). Nursing education had been a 2-year, 80-point or a 2.5-year, 100-point program, leading to *Sjuksköterskeexamen (field)* (University Certificate in Nursing [field]), which the student entered after a 2-year nurse assistant program in upper secondary school. Separate programs existed for training in ophthalmology, or as operating room or radiology assistant. During the 1980s the programs were incorporated into the nursing program as either specialization or postgraduate training. On entry to the tertiary program, the student chose either general nursing or one of the nursing specializations such as nursing-diagnostic radiology, or nursing-oncology. The general nursing, operating room nursing, and psychiatric nursing programs each required 80 points; the specialty programs, which usually included an extra half-year, required 100 points. These programs will continue until the currently enrolled cohort complete their programs. A one-semester, 20-point course was available to graduates of 100-point programs to bring their qualifications in line with those of the 3-year degree holders.

In 1993 the nursing program was changed to a 3-year, 120-point program, also leading to *Sjuksköterskeexamen*, but translated as University Diploma in Nursing, concentrating on general nursing. The program includes 70 points in nursing science and 50 points in social-behavioral sciences and natural sciences. Courses may also include an advanced course on research methods in nursing (10 points) and a research paper (10 points). Specializations in nursing will be taken in a subsequent year. Students no longer come primarily from upper secondary school nursing preparatory lines, and this change has resulted in a complete restructuring of the general nursing program. The new program includes, in addition to nursing training, more emphasis on science, psychology, sociology, pedagogy, and medical science. The 3-year program brings it up to the requirements for acceptance within the European Community.

Graduate nurses from either of the above programs may pursue supplemental courses in the field offered at several of the colleges of health. Among the specializations are anesthesiology and intensive care, health and nursing of children and youth, obstetrics and gynecological nursing, etc. The courses range from 40 to 60 points. In some courses the additional year will lead to a specialization such as Midwifery, where the credential of *Barnmorskeexamen* (translated until July 1993 as Bachelor of Science in Nursing [Midwifery] and thereafter as University Diploma in Midwifery) is given. Admission requirements vary. Most require a state legitimized nursing certificate plus work experience in the field. Graduates may also complete the teacher education program to train as teachers of nursing (see Chapter 6, nursing teacher education).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Sjuksköterskeexamen (field) (University Certificate in Nursing [field]) 80, 100 points	*Sjuksköterskeexamen* (University Diploma in Nursing) 120 points
Högskoleexamen på (field) (University Certificate in [field]) 20 points	*Bevis* (Certificate) 20 points
Högskoleexamen på (field) (Bachelor of Science in [field]) 40 points	*Högskoleexamen på (field)* (Diploma in [field]) 40 points
Barnmorskeexamen (Bachelor of Science in Nursing [Midwifery]) 60 points	*Barnmorskeexamen* (University Diploma in Midwifery) 60 points

Occupational Therapy (*Arbetsterapeut*): Training is a 3-year, 120-point, program leading to *Arbetsterapeutexamen* (translated as University Certificate in Occupational Therapy until July 1993 and thereafter as University Diploma in Occupational Therapy). Until 1993 it required only 100 points. The course requirements include behavioral and social sciences, human biology and medicine, scientific methodology, and substantial training in occupational therapy. Students may specialize in a particular area such as rehabilitation. Applicants must have completed either a health and nursing upper secondary course or an academic upper secondary course that included advanced mathematics, science, physics, and chemistry.

Following is a sample 3-year occupational therapy program where each semester consists of 20 weeks of classes:

Semester 1- occupational therapy (5 points), research methods (5), behavior sciences including pedagogics, psychology, and sociology (10)

Semester 2- human biology including anatomy, physiology, and medicine (10), occupational therapy (9)

Semester 3- social science and behavior science including social science, psychology, and

sociology (10), medicine including social medicine and ergometric (5), occupational therapy (5)
Semester 4- medicine (5), occupational therapy (15)
Semester 5- gerontology (5), occupational therapy (15)
Semester 6- occupational therapy (10), project (10).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Arbetsterapeutexamen (University Certificate in Occupational Therapy) 100 points	*Arbetsterapeutexamen* (University Diploma in Occupational Therapy) 120 points

Optical Technician (*Optiker*): A new 3-year, 120-point program begun in 1994 qualifies graduates as Licensed Opticians. This program was formerly taught at the upper secondary level.

Orthopedic Technology and Engineering (*Ortopedtekniskutbildning*): The 1.5-year, 60-point program, leading until July 1993 to *Högskoleexamen på Ortopedtekniskalinjen, Ortopedtekniker* (translated until July 1993 as University Certificate in Prosthetics and Orthotics-Orthopedic Technician in Orthopedic Technology, and thereafter as Diploma in Prosthetics and Orthotics), provides training in the adjustment and repair of prosthetics and orthotics. Admission requires completion of a 2-year technical program in upper secondary school. The 3-year, 120-point program in orthopedic engineering provides training in the design of prosthetics and orthotics. Admission requires completion of a 3-year technical program and 3 years of mathematics, physics, and chemistry and 2 years of technology in upper secondary school or the equivalent. Included are courses in anatomy and physiology, orthotics and prosthetics, biomechanics, psychology, medical science, social science, and 50 points of practical training. The program has recently undergone changes and will include less practical training and more theoretical coursework. Admission to the 1-year advanced course in orthoptics, which led until July 1993 to *Ortopistexamen* (University Diploma in Orthoptics) and thereafter to a *Bevis* (Certificate), requires completion of a nursing or health-related degree.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på Ortopedtekniskalinjen, Ortopedtekniker (University Certificate in Prosthetics and Orthotics-Orthopedic Technician) 60 points	*Bevis* (Certificate) 60 points
Högskoleexamen på Ortopedtekniska Linjen (Ortopedingenjör) (Bachelor of Science in Prosthetics and Orthotics-Orthopedic Engineer [Prosthetist and Orthotist]) 120 points	*Högskoleexamen på Ortopedtekniska Linjen (Ortopedingenjör)* (Diploma in Prosthetics and Orthotics) 120 points
Ortoptistexamen (University Diploma in Orthotics) 40 points	*Bevis* (Certificate) 40 points

Physical Therapy (*Sjukgymnast*): Training is a 3-year, 120-point program, which until 1983 had been a 2.5-year, 100-point program. The credential awarded is *Sjukgymnastexamen* (translated until July 1993 as University Certificate in Physical Therapy and thereafter as University Diploma in Physiotherapy). Admission requires completion of the 2-year upper secondary health line or the 3-year academic upper secondary program with mathematics, science, physics, and chemistry. In addition to substantial training in physiotherapy, there is limited coursework (a total of 20 points) in physics, chemistry and mathematics, anatomy, and behavioral science. Theory alternates with practice throughout the studies, with practice making up about 25% of the total time. The credential gives the full course description in Swedish and English on the reverse.

Until the new 3-year, 120-point program was established, graduates of the physical therapy course could study for an additional 20 weeks for a bachelor's degree in physical therapy. The program included 2 weeks of public health administration, 5 weeks of project work, and 13 weeks of courses in one of the following areas: primary health care/physical therapy; county and regional medical care/physical therapy; psychiatric care/physical therapy; rehabilitation/physical therapy; or occupational health service/physical therapy. Specialization courses are available to graduates and usually require 20 points. A certificate giving the specialization and the number of points is issued.

Following is a sample 3-year physical therapy program (see Table 5.3 for a sample of the 2.5-year

Table 5.3 Physical Therapy Course List (2.5 years)

	Hours / Semester					
Subjects	**1**	**2**	**3**	**4**	**5**	**Total**
Physical Therapy, Theory and Methods		280	167	180	135	762
Clinical Training		160	320	140	360	980
Human Biology, Anatomy	75	49	60			184
Physiology	60	36				96
Clinical Physiology		17				17
Medical Subjects, Geriatrics				10		10
Internal Medicine		24				24
Rehabilitation Medicine		38	37	20	45	140
Neurophysiology				6		6
Neurosurgery				4		4
Surgery		24				24
Neurology				45		45
Orthopedic Surgery			43	6		49
Obstetrics and Gynecology					10	10
Pathology		12				12
Pediatrics				25		25
Psychiatry			26	10		36
Rheumatology			13			13
Community and Environ. Health					10	10
Social and Behavioral Sciences						
Administration and Management					40	40
Research Methods	80				40	120
Pedagogics	24		10		10	44
Psychology	36	33			10	79
Social and Behavioral Sciences	170					170
Ergonomics					60	60
Degree Project				120		120
Natural Sciences (Alternative 1)*	175					175
Physics, Chemistry, and Mathematics						
Natural Sciences (Alternative 2)*						
Microbiology and Hygiene	16					16
Patient Care	43					43
Clinical Training	140					140

Note: Each semester consists of 20 weeks of classes.

* Alternative 1 or 2 depending on previous knowledge.

program). For both programs, each semester consists of 20 weeks of classes as follows:

Semester 1- introduction to physical therapy (5 points), anatomy (7), theory and methods in physical therapy (8)
Semester 2- physiology (10), psychological theory and social psychological theory (5), physical therapy/tone, respiration and circulation (5)
Semester 3- physical therapy/respiration, circulation, stability, mobility, balance, clinical training (15), sociology/man and society (5)
Semester 4- physical therapy/rehabilitation medicine, clinical training (15), work science/ergometric, psycho/social work environment (5)
Semester 5- pedagogics (5), psychology (5), physical therapy and primary health (10)
Semester 6- elective courses (10): either theory or clinical training and theory, degree project (9).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Sjukgymnastexamen (University Certificate in Physical Therapy) 100 points (Bachelor of Science in Physical Therapy) 20 points	*Sjukgymnastexamen* (University Diploma in Physiotherapy) 120 points

Prescriptionist/Dispenser (*Receptare*): Two levels of degrees in pharmacy are offered only at the

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University of Uppsala Faculty of Pharmacy. The prescriptionist/dispenser program requires either 40 points or 80 points, depending on student's background, and led to ***Receptarieexamen***, (translated as University Certificate in Dispensing Pharmacy until July 1993 and thereafter University Diploma in Dispensing Pharmacy). The 40-point program builds on the upper secondary school pharmacy technician (*apoteksteknike*r) program and includes pharmaceutical chemistry (14 points), pharmaceutical biochemistry (4), pharmaceutical microbiology, pharmaceutical pharmacology with morphology and physiology, medical chemistry, toxicology, and pharmacognosy, for a total of 13 points, social pharmacy (2), Galenic pharmacy and biopharmacy (3), and pharmatherapy (4). This program is also offered as correspondence (distance) training. The 80-point program includes all the above, but in greater depth, plus medical science (15 points), social pharmacy (5), and morphology and physiology (4). Graduates of either program may continue into the pharmacy program after a 20-point, 1-semester preparatory course are also offered at Uppsala.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Receptarieexamen (University Certificate in Dispensing Pharmacy) 40, 80 points	*Receptarieexamen* (University Diploma in Dispensing Pharmacy) 40, 80 points

Music

Music (*Musikerutbildningen*): Programs range from a 2-year technical program to the more theoretical and applied music programs. They are offered at the Universities of Göteborg and Lund, Luleå University College and Institute of Technology, and the Royal University College of Music in Stockholm. All music programs since July 1993 lead to *Konstnärlig Högskoleexamen i Musik* (University Diploma in Music) with varying points.

The 2-year, 80-point sound engineering program, leading until July 1993 to *Högskoleexamen på Musikerlinjen* (University Certificate in Music) at Luleå, provides basic study in sound engineering and radio broadcasting during the first year. After completion the student can work as a sound technician or continue in the second year of studies consisting of courses in theatrical sound engineering or music recording. Admission to the program requires completion of 2 years of upper secondary school, 2 years of English, basic electronics or the electrotechnical program or the equivalent, and 3 years of experience in the municipal music school, plus 2 years in ensemble playing.

A 2-year, 80-point program, leading until July 1993 to *Högskoleexamen på Musikerlinjen* (University Certificate in Music) in directing, arranging, and composition or individual study, is offered at the Universities of Göteborg and Lund, the Royal University College of Music in Stockholm, and Luleå University College and Institute of Technology.

A 3-year, 120-point course, leading until July 1993 to *Högskoleexamen på Musikerlinjen* (Bachelor of Fine Arts in Music) offered at Luleå University College and Institute of Technology and the Royal University College of Music in Stockholm, includes training in either arranging and composition or electronic music and composition. The programs previously required completion of compulsory education but have recently increased their standards to also require completion of the general tertiary study eligibility requirements. This program also requires a test of the applicant's skills in voice, instrument, and music theory.

The 4-year, 160-point program in voice, instrumental music, composition, arranging, and ensemble, leading until July 1993 to *Hög-skoleexamen på Musikerlinjen* (Master of Fine Arts in Music), is offered at the Universities of Göteborg and Lund, and the Royal University College of Music in Stockholm. The 4-year, 160-point program in church music, leading to *Högskoleexamen på Kyrkomusikerlinjen* (Master of Fine Arts in Church Music) offered at the Universities of Göteborg and Lund, the Royal University College of Music in Stockholm, and Luleå University College and Institute of Technology, includes coursework in piano, chorus, leading a choir or instrumental ensemble, liturgical song and directing, history of music, organ, teaching and psychology, instrumental knowledge, singing, singing with children and youths, and methodology. Admission to the program requires meeting the general requirements and also a test that includes voice, instrument, and theory.

There are advanced courses in music: a 2-year, 80-point or 4-year, 160-point program, both leading until July 1993 to *Högskoleexamen på Påbyggnadslinjen Utbildning i Musik* (Postgraduate Diploma in Music) offered at the Universities of Göteborg and Lund, the Royal University College of Music in Stockholm, and Luleå University College and Institute of Technology. These programs provide training in directing, composition, voice, or instrument, and require completion of a program in music, church music, or an equivalent music program. There are also two advanced courses in composition: a 3-year, 120-point program and a 4-year, 160-point program, leading to the same degree offered at Luleå University College and Institute of Technology. They require completion of a first music degree or the equivalent for admission.

Music Education (*Musiklärarutbildning*): The program for teachers is a 4-year, 160-point program with three specializations, leading to the *Musiklärarexamen* (translated until July 1993 as Master of Fine Arts in Music Education and thereafter as University Diploma in Music Education). Students are trained to teach at both the compulsory and upper secondary levels, or to teach in the areas of instrument and ensemble, or of rhythmics and ensemble. Options have the same core program for the first 1.5 years, along with pedagogy and practice teaching courses. The remainder of the program is in the specialization.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på Musikerlinjen (University Certificate in Music) 80 points	*Konstnärlig Högskoleexamen i Musik* (University Diploma in Music) 80, 120, 160 points
Högskoleexamen på Musikerlinjen (Bachelor of Fine Arts in Music) 120 points	
Högskoleexamen på Musikerlinjen (Master of Fine Arts in Music) 160 points	
Högskoleexamen på Påbyggnadslinjen Utbildning i Musik (Postgraduate Diploma in Music) 80, 120, 160 points	
Musiklärarexamen (Master of Fine Arts in Music Education) 160 points	*Musiklärarexamen* (University Diploma in Music Education) 160 points
Högskoleexamen på Kyrkomusikerlinjen (Master of Fine Arts in Church Music) 160 points	*Organistexamen* (University Diploma in Church Music) 160 points

Admission requires good performance in upper secondary school and entrance tests. The education courses are as follows: pedagogy (9 points), methodology (11-15 points), and practice teaching (20 points). The remainder of the coursework is in music.

Psychology

Psychology (*Psykologi*): The 5-year program in psychology, leading to the *Psykologexamen* (translated until July 1993 as Master of Science in Psychology and thereafter University Diploma in Psychology), is offered at the Universities of Göteborg, Linköping, Lund, Stockholm, Umeå, and Uppsala. The program focuses on the behavioral sciences with particular attention to psychology. Studies include the theory of individual development and functioning within a group, organization, or society, and also training in psychotherapy, and 15 weeks of practical experience in the workplace. The program qualifies the graduate to work with individuals, groups, organizations, or social agencies. There also was a 2-year, 80-point advanced program that required the first university degree, but it has been discontinued. In addition to the general requirements, the special requirements include 2 years of mathematics and social sciences in upper secondary school or the equivalent with 1 year of fulltime work experience or the equivalent.

The program includes an introduction (10 points), society and social analysis (10), basic psychological functions (15), development (20), personal psychology (15), groups and organizations (15), investigation and measure covering the individual (15), practicum (25), psychotherapy (25), organization and environment (20), output, methodology and research (10), and project (20). The program also includes 50 hours of individual and 120 hours of group therapy, paid for by the student.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Psykologexamen (Master of Science in Psychology) 80, 200 points	*Psykologexamen* (University Diploma in Psychology) 200 points

Social Service

Social Service (*Social Omsorgsutbildning*): The 2.5-year, 100-point program led until July 1993 to *Högskoleexamen på Sociala Omsorgslinjen (äldre- och*

handikapp omsorg/omsorg om psykiskt utvecklingsstörda och flerhandikappade (University Certificate in Social Service, Care of the Elderly and the Handicapped or care of the Mentally and Multi-handicapped) and thereafter to *Social Omsorgexamen* (University Diploma in Social Care) or a 3-year, 120-point program in social service/community service, also leading to *Social Omsorgsexamen* (University Diploma in Social Care), that had been a 2-year, 80-point program. Both programs are offered at several of the Colleges of Health. There are two options for this program: either social rehabilitation, or the care of the elderly, handicapped, mentally handicapped, and multi-handicapped. Admission to the program requires completion of upper secondary school in a health-related field or the equivalent. The social rehabilitation option offers courses in social sciences (20 points), social rehabilitation (42), and psychiatry, law, supervising, and social rehabilitation practice (20). The care of the elderly, handicapped, mentally handicapped, and multi-handicapped option offers courses in social sciences (26), specialized courses in the areas of the handicapped, the elderly, behavior analysis, psychiatry, supervising, law, advanced courses, and practical training (12).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på Sociala Omsorgslinjen (äldre- och handikapp omsorg/omsorg om psykiskt utvecklingsstörda och flerhandikappade) (University Certificate in Social Service, Care of the Elderly and the Handicapped or Care of the Mentally and Multi-handicapped) 80, 100 points	*Social Omsorgsexamen* (University Diploma in Social Care) 100, 120 points
Högskoleexamen på Sociala Omsorgslinjen i Socialpedagogiskt Behandingsarbete (University Certificate in Social Service, Social Rehabilitation) 100 points	

Social Work

Social Work (*Sociala Linjen*): The School of Social Work and Public Administration (*Socialinstitutet i Stockholm*) was created in 1921 as a private institution, and received funding from the government beginning in 1938. During the 1940s, social work schools were founded in Göteborg and Lund. In 1963, all schools of social work and public administration were incorporated into the state education system and the programs were increased to the present 3.5-year program that led to the *Socionomexamen* (translated as Bachelor of Science in Social Work until July 1993 and thereafter as University Diploma in Social Work). Social work is offered at the Universities of Göteborg, Lund, Stockholm, and Umeå, the University College of Örebro, and Mid Sweden University College. The Sköndal Institute in Stockholm also offers a 4-year program that includes a 20-point deacon program, which led until July 1993 to the *Social examen* (Bachelor of Science in Social Work) and thereafter to the *Socionomexamen* (University Diploma in Social Work). The social work program provides a wide social science background with technical training in social work (see Chapter 7, Sköndal).

In addition to the general admission requirements, the 3.5-year and 4-year programs also require 1 year of mathematics and 2 years of social science in an upper secondary school or the equivalent.

The first year of the 3.5- or 4-year program provides a 1-year basic course in social sciences that focuses on the social structure and methodology. The remainder of the program includes specialized courses in the theoretical and social work areas. Field work integrates theoretical knowledge with practical work and provides training in working methodology. The program includes introduction to social work (3), political science (5), social economics (6), sociology (6), social psychology (14), psychology (6), legal issues (15), methods in social work (17), field work (40), social/behavioral science, theory, methods, and statistics (8), psycho-social work and planning (10), and thesis project (10).

A 1-year, 40-point or 1.5-year, 60-point advanced program, both leading leading until July 1993 to *Högskoleexamen på Påbyyggnadslinjen i Socialt Abete* and thereafter to *Magisterexamen i Socialt Arbete* (both translated as Master of Science in Social Work), are available at the Universities of Göteborg, Stockholm, and Umeå, and the University Colleges of Örebro and Östersund. Admission requires completion of the *Socionomexamen* or the equivalent and 2 years of professional experience after that degree.

The program provides advanced knowledge and qualifies the graduate to practice social work. It provides training in either a theoretical perspective concerning the relationship of the social structure and man, or psycho-social perspective on the relationship between social work and the client. Both options include a 10-point thesis paper.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Socionomexamen (Bachelor of Science in Social Work) 140 points	*Socionomexamen* (University Diploma in Social Work) 140, 160 points
*Social examen** (Bachelor of Science in Social Work) 160 points	
Högskoleexamen på Påbyggnadslinjen i Socialt Arbete (Master of Science in Social Work) 40, 60 points	*Magisterexamen i Socialt Arbete* (Master of Science in Social Work) 40, 60 points

* The *Social examen* was awarded at the Sköndal Institute in Stockholm. The additional 20 points consisted of coursework in deacon studies.

Systems Analysis

Systems Analysis (*Systemvetenskaplig Utbildning*): The 1-year, 40-point and 1.5-year, 60-point programs have been replaced by the 2-year, 80-point program in administrative data processing (ADP), all leading until July 1993 to *Högskoleexamen på ADB-linjen* (University Certificate in Automatic Data Processing and thereafter translated as Diploma in Automatic Data Processing), which constitutes the first part of the 3-year or 4-year programs at many institutions. The 2-year program includes a 10-point project. Several institutions also offer programs in administrative computer science, computer science, and computer science and information systems.

The 3-year, 120-point program, leading until July 1993 to *Högskoleexamen på Systemvetenskapliga linjen* (Bachelor of Science in Systems Analysis) and thereafter to *Kandidatexamen i Systemvetenskaplig* (Bachelor of Systems Analysis), or 4-year, 160-point programs, leading to *Magisterexamen i Systemvetenskaplig* (Master of Systems Analysis) in systems analysis, qualify graduates to work as project managers, system developers, or programmers. One or both of these programs are offered at the Universities of Göteborg, Linköping, Lund, Stockholm, Umeå, and Uppsala, Luleå University College and Institute of Technology, and the University Colleges of Karlstad, Mid Sweden, Skövde, Växjö, Örebro, and Östersund.

In addition to the general requirements, special admission requirements include 3 years of mathematics and 2 years of social science in upper secondary school or the equivalent.

The program includes a majority of coursework in administrative data processing and in mathematics and business. The 4-year program includes an additional 10 points for thesis project, specialization, and electives. Program at Luleå University College and Institute of Technology follows:

Year 1- introduction to computer science (5), advanced computer science (5), database management systems (5), basic production technology (5), mathematics (5), financial management and investment planning (8), statistics (7)

Year 2- software engineering (5), office automation (3), data of communication (3), systems development I (10), project and leadership (5), principles of operating systems (4), organizational behavior (5), fourth generation programming language (5)

Year 3- production and inventory control (5), computer integrated manufacturing (5), systems development II (5), principles of artificial intelligence and expert systems (5), introduction to object oriented systems development/software engineering (5), computer based systems for business administration (5), project (10).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på ADB-linjen (University Certificate in Automatic Data Processing) 40, 60 points	Not offered
Högskoleexamen på ADB-linjen (University Certificate in Automatic Data Processing) 80 points	*Högskoleexamen på ADB-linjen* (Diploma in Automatic Data Processing) 80 points
Högskoleexamen på Systemvetenskapliga linjen (Bachelor of Science in Systems Analysis) 120 points	*Kandidatexamen i Systemvetenskaplig* (Bachelor of Systems Analysis) 120 points
Not offered	*Magisterexamen i Systemvetenskaplig* (Master of Systems Analysis) 160 points

Theology

Theology (*Teologi*): A 3.5-year, 140-point program and a 4-year, 160-point program, both leading until July 1993 to *Högskoleexamen* or *Teologie Kandidatexamen på Religionsvetenskapliga Linjen*/ (translated as Bachelor of Divinity if 140 points and Master of Divinity if 160 points) and thereafter to *Teologie Kandidatexamen* (University Diploma in Divinity) for both programs, is offered at the Universities of Uppsala and Lund. The Universities of Göteborg, Stockholm, and Linköping also offer some study in the field. In addition to the general requirements, the special admission requirements include 3 years of Swedish and history and 1 year of religious studies in upper secondary school or the equivalent.

The first year of study at Uppsala is a basic course in religious studies that includes religious history. In the second year, students choose between two options: a general option, comprising 80 points and a 10-point thesis, or the specialized option, which requires 100 points of study and a 20-point thesis. This last option is for those who wish to enter the Church of Sweden. Study includes coursework in the areas of religious history, sociology and psychology, Bible studies, and Christian history. Graduates of the 4-year program who wish to enter the Church of Sweden must attend 1 year of practical/theological training at a pastoral institute before they can be ordained.

Licentiate in Theology (*Teologie Licentiatexamen*): This is a 2-year, 80-point program that requires completion of the first degree for admission and a publicly defended thesis.

Doctor of Theology (*Teologie Doktorsexamen*): This is a 4-year, 160-point program that requires completion of the first degree for admission and the public defense of a dissertation.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen or *Teologie Kandidatexamen på Religionsvetenskapliga-Linjen* (Bachelor of Divinity) 140 points (Master of Divinity) 160 points	*Teologie Kandidatexamen* (University Diploma in Divinity) 140, 160 points
Teologie Licentiatexamen (Licentiate in Theology) 80 points	No change
Teologie Doktorsexamen (Doctor of Theology) 160 points	No change

Chapter 6
Teacher Education

Educational Reform

Prior to the reform of 1977, teachers were trained at one of several institutes, depending on the level at which they would teach. Institutes were independent, and only a few had links to a university. Preschool teachers were trained at special institutes where admission required completion of compulsory school. The 2-year program consisted of coursework and practice teaching. Teachers for grades 1 and 2 were trained at an institute (*småskolseminarium*) for primary school teachers. Admission required completion of compulsory school. The 2- or 3-year program consisted of coursework and practice teaching. Both of these institutions were incorporated into the schools of education.

The schools of education (*lärarhögskolor*) were established in 1956 and by 1968 included the institutes of education (*folkskoleseminarium*) for teacher education in lower, middle, and upper compulsory school. Students completed courses in pedagogics, methodology, and practice teaching in addition to courses in one or two main subject areas. The schools were on the tertiary level and had links with the universities, but in the reform of 1977 they were integrated into a university or university college. Initially, admission required the Lower Secondary Leaving Certificate (*Realexamen*) but was later raised to require the Upper Secondary Leaving Certificate (*Studentexamen*).

Teacher training was available in specialized subjects at various institutes, such as the art school (*Konstfackskolan*), Craft Training College (*Slöjdseminariet*) in Linköping, physical education at the Gymnastics and Sports Colleges (*Gymnastik och Idrottshögskolor*) in Stockholm and Örebro, the Royal College of Music (*Musikhögskolan*) in Stockholm or conservatories in Göteborg and Malmö, and the Schools for Home Economics (*Seminarier för Huslig Utbildning*) in Göteborg, Stockholm, Umeå, and Uppsala. Admission to these postsecondary vocational training schools required expertise in the area. Programs varied from 1 to 4 years and included classes in the main subject area and pedagogical training. Unlike the class or subject curricula that allowed the study of two or three main subject areas, the vocational programs provided training in a single subject only. Most vocational and technical teacher training institutes were integrated into the schools of education beginning in 1972.

Prior to 1969, university students preparing for a career in teaching at the upper secondary level (*gymnasium*) could concentrate on one subject group such as geography, botany, or zoology. They would work at their own pace and select a combination of subjects for a total of seven units, which was usually completed in 3 or 4 years. The degree awarded was the *Filosofisk Ämbetsexamen* (Master of Philosophy). At the same time, the title *Filosofie Magisterexamen* was awarded. The program was restructured after the 1977 reform. Seventeen university teacher training programs had fixed combinations of courses. Two main subjects were required for graduation. The first degree was the *Filosofie Kandidatexamen* (Bachelor of Arts/Sciences). In order to teach, 1 additional year of pedagogical training was required at a school of education. It consisted of courses in pedagogics and methodology and included 1 term of practice teaching. Upon completion of the 1-year program, the *Högskoleexamen på Ämneslärarlinjen* was awarded. Students became teachers (*adjunkt*) in upper secondary school.

The Reform of 1977

While the compulsory education reforms were taking place, changes were also beginning to occur in teacher training schools. A shortage of teachers occurred between 1950 and 1970 due to a rapid increase in the birth rate, educational reforms that were taking place in compulsory schools, increased enrollment in upper secondary school, the raising of minimum qualifications for employment due to advances in technology, and the increasing number of students aspiring to higher goals in education. Teachers trained to teach at one of the many specialized types of schools prevalent at the time now found themselves in a newly integrated classroom with a full range of students. The structure of teacher training did not actually change until 1988, some 11 years after the reform. Teachers already in the system were given in-service training, especially in subject studies, to keep pace with the recent graduates from the new curriculum. Between 1959 and 1970, the number of new teachers rose from 4,000 per year to around 10,000. By the 1980s, shortages of teachers were found only in sparsely populated areas, in certain subjects such as languages and Swedish as a second language, in preschool, in adult education, and in vocational areas in which special expertise in the field was required.

The Reform of 1993

With the 1993 reform the government reduced the number of degrees awarded by combining and renaming them. The educational system became less centralized, with the government still authorizing the granting of degrees and determining minimum length of study but the institutions now determining course content. There were only a few curriculum changes immediately, but in time individual programs are expected to be more reflective of the individual institutions.

Programs are available at the Universities of Göteborg, Linköping, Lund, Umeå, and Uppsala; the Stockholm Institute of Education; the Stockholm University College of Physical Education and Sports; the Royal University College of Music; The University College of Arts, Crafts, and Design; and the University Colleges of Borås, Falun/Borlänge, Gävle/Sandviken, Gotland, Halmstad, Jönköping, Kalmar, Karlstad, Kristianstad, Luleå, Mid Sweden, Mälardalen, Örebro, Trollhättan/Uddevalla, and Växjö. No one institution offers all teacher education programs.

Programs

Preschool and Recreation

Preschool teachers (*Förskollärare*) work with children up to 7 years of age in infant care and nursery schools. Recreation instructors (*Fritidspedagog*) work with children and adults. The Preschool Teacher Education and Recreation Instructors Education programs offer 50-week, 2-year, or 2.5-year (50-point, 80-point, or 100-point, respectively) variations. The 50-week and 2-year programs are being phased out at many institutions. The 100-point program was increased to 3 years, 120 points beginning fall 1993 at most institutions. The length of the program differs depending upon the qualifications of the student entering. Each of the variations results in the same final qualification (see Tables 6.1 and 6.2). Both programs offer a special bilingual option in the teaching of a second language such as Finnish, Greek, Polish, Sami, Spanish, etc. The exams are in both languages. There is also a special 1-year, 40-point course for those who have a non-Scandinavian preschool degree.

For both the preschool teachers and recreation instructors, admission to the 100- or 120-point program requires 2 years of Swedish and social science at the upper secondary level or the equivalent; the 80-point program requires completion of the upper secondary school 2-year child or youth option in the health line or the equivalent. The 50-point program requires completion of the upper secondary school 2-year child or youth option in the health line or the equivalent, or the 40-week course in child care or youth care and 4 years of experience as an administrator or head teacher, or 2 years of working in a nursery school.

Compulsory School

Since the reorganization of higher education in 1977, nearly all teacher colleges and institutes have become part of either a university or university college, resulting in a more consistent curriculum at each level across the country. The only institution to remain independent is the Stockholm Institute of Education. The government oversaw the central curriculum for all levels, but since the 1993 reform, the government has provided the basic structure of the degree program and each institution determines the content.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Förskollärarexamen (University Certificate for Nursery and Infant Education) 50, 80, 100 points	*Barn- och ungdomspedagogisk examen* (University Diploma in Child and Youth Training) 120 points
Fritidspedagogexamen (University Certificate for Recreation and Leisure Education) 50, 80, 100 points	

Table 6.1 Preschool Teacher Education Course List (1992, with points)

	100	80	50
Communication (Language and Literature, Voice and Speech Care, Art and Design, Craft, Music with Instrumental Music, Education Drama, and Rhythmics)	22	20	15
Contemporary Social and Environmental Studies (Social Science, Science with Medical Care)	12	10	10
Pedagogy/Methodology (Psychology/Pedagogics, Pedagogics, Methodology)	30	25	20
Practice Teaching (practical work with a tutor, society-oriented practical work, practice teaching)	36	25	5

Table 6.2 Recreation and Leisure Teacher Education Course List (1992, with points)

	100	80	50
Communication (Language and Literature, Voice and Speech Care, Art and Design, Music, Educational Drama, and Rhythmics)	22	20	15
Contemporary Social and Environmental Studies (Social Science and Science)	17	15	10
Pedagogics/Methodology (Psychology, Pedagogics, and Methodology)	25	20	20
Practical Work (practical work in children's leisure centers, preschool practice in 100-point program, special practical work in 100/80-point program and school practice in 100/80-point program)	36	25	5

The tradition of training students as classroom teachers for the lower and intermediate levels or subject teachers for the higher level of compulsory school was maintained until 1988. Degrees were awarded for the intermediate level until December 1990 and for teachers of the lower level until June 1991. During this period, students in the lower level (*lågstadielärarlinjen*) and intermediate level (*mellanstadielärarlinjen*) teacher education programs could take one or two courses from the next higher level to qualify to teach in those subjects at the next higher level. Subject teachers received a degree in their major subject area and completed 1 additional year of teacher education coursework.

Beginning in the late 1980s, teacher education programs were lengthened and higher entrance qualifications became necessary. In 1988 teacher education for the 9-year compulsory school system was reorganized into two programs: the 3.5-year, 140-point program for grades 1-7 and the 4-year or 4.5-year, 160- or 180-point program for grades 4-9. The two programs overlap to give teachers a broader range of grades in which to teach. Prior to this time, teachers were trained to teach only 3 grades, for example, grades 1-3, which created a severe limitation for both teacher and school. The programs are vocational and designed so that the subject courses alternate with periods of practice teaching. About 1.5 years of the program are the same for both options. The courses emphasize communication skills and language training. The teacher training program for grades 1-7 follows a general curriculum but includes 1 year of specialization. The program for grades 4-9 is more diversified and allows greater study time in a specialization.

Special admission requirements in addition to the general requirements are 2 to 3 years of the chosen specializations in upper secondary or the equivalent, except in the area of religion, which requires 1 year or the equivalent.

The curriculum for grades 1-7 has the following concentrations: Swedish/social subjects, mathematics/science subjects, Swedish as a foreign language, home language/social subjects, home language/mathematics and science subjects, and adult education at the compulsory level. The curriculum for grades 4-9 has concentrations in Swedish and other languages; home language, Swedish as a foreign language, and English; social subjects; mathematics and science subjects; natural science; and art or physical education or music or home economics and one of either Swedish, English, home language, or mathematics.

The most recent curriculum changes for grades 1-7 call for more specialization at the lower or intermediate levels and for a higher level and broader program for grades 4-9 (see Document 6.1 for degree certificate). These changes are also reflected in the revision of the teacher training programs (see Table 6.3 for course list).

Table 6.3 Compulsory School Teacher Education Course List (1992)

Subjects	Grades 1-7			Grades 4-9				
	Sw/ Soc	Ma/ Sc	Sw/ Lang	Soc	Sc	Ma/ Sc	Arts	PE
Culture and Communication	5	5	5	5	5	5	5	5
Electives/Specializations	40	45	40	40	40	70	50	45/65
Swedish/Home Language			20					
Mathematics	5	10	5		20/65			
Natural Sciences/Science*		15			20/65			
Pedagogics/Methodology	20	20	20	20	20	20	20	20
Practice Teaching	20	20	20	20	20	20	20	20
Social Sciences*	25			85				
Swedish/English			10					
Swedish	15	15	15					
Thesis	5	5	5	10	10	10	10	10
Visual Arts, PE, or Music	5	5				55	75	60
Total	140	140	140	180	180	180	180	160/180

Note: Concentrations are in the areas of Swedish/social subjects (Sw/Soc), mathematics/science subjects (Ma/Sc), Swedish as a foreign language/home language (Sw/Lang), social subjects (Soc), science (Sc), mathematics/science (Ma/Sc), arts (Arts), and physical education (PE).

*Social Sciences include history, religious knowledge, social science, and geography. Science includes physics, chemistry, biology, and technology.

There is a 1-year program for those who wish to teach specific subjects in grades 4-9. Applicants must have degrees in engineering or architecture or have completed a 3.5-year university level program with 60 points in the major subject and 40 points in a second area, unless the second area is Swedish, in which case 60 points are required. The courses are in pedagogy, methodology, and practice teaching.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Lågstadielärarexamen (University Certificate in Primary Education [Junior Level]) 100 pts	Not offered
Mellanstadielärarexamen (Bachelor of Education in Primary Education [Intermediate Level]) 120 points	Not offered
Grundskollärarexamen (Bachelor of Education [Compulsory Comprehensive School, grades 1-7]); 40, 140 points	*Grundskollärarexamen* (University Diploma in Education for Primary and Secondary School, grades 1-7) 140 points
Grundskollärarexamen (Bachelor of Education [Compulsory Comprehensive School, grades 4-9]) 40, 160, 180 points	*Grundskollärarexamen* (University Diploma in Edu. for Primary and Secondary School, grades 4-9) 40, 160, 180 points

Upper Secondary School

The teacher education program, previously 4 to 5.5 years in length, was increased to 4.5 to 5.5 years beginning July 1993. The length of the program is determined by the type of major subjects chosen. There is also a 1-year, 40-point program consisting of education courses for those who have already completed at least a 3.5-year program and met the minimum requirements in the field.

Special admission requirements in addition to the general requirements are 3 years of Swedish and English in upper secondary school or the equivalent, and 2 to 3 years of upper secondary level courses in the major subjects. The 1-year program requires completion of a general, technical, or economics university program of at least 140 points with at least 80 points in the subject area.

The program consists generally of two subjects and includes 40 points of education courses. There were set combinations of paired courses that could be chosen for study, such as mathematics and biology, history and social science, or Swedish and

English (see Document 6.2 for degree certificate). After July 1993, students are required to complete a 4.5- to 5.5-year program with 80 points in the first subject and 60 points in the second subject. Eighty points are required in the second subject for the areas of language, social sciences, art, music, and physical education. Forty points of education courses are also required. The new program under the 1993 reform legislation will allow more freedom in the choice of teaching areas. Rather than a set combination list, students may choose two languages (Swedish, English, Finnish, French, German, Spanish, Greek, or Latin), two natural science subjects (biology, physics, chemistry, or mathematics), or two humanities/social science subjects (philosophy, geography, history/economic history, psychology, religion, or social science).

Education courses are usually sandwiched between the subject courses during 2 semesters of the program, usually the fifth and one of the last 2 semesters. Courses usually include 1 semester or 20 points of pedagogy and methodology and 1 semester or 20 points of practice teaching, usually 8 weeks during the fifth semester and 12 weeks during one of the final semesters (see Table 6.4 for a course list).

There is a 1-year teaching program for those who have completed their 3.5-year degree or have degrees in such fields as engineering, architecture, or economics, or have vocational training and relevant experience or extensive vocational experience. The education courses cover the same material as the regular teaching degree. The certificate allows students to teach in their field in upper secondary school.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Ämneslärarexamen på (field) (Master of Arts/Science in [field] Education or Master of Arts/Science/Social Sciences for Upper Secondary and Adult Education) 40, 160, 180, 200, 220 points	*Gymnasielärarexamen* (University Diploma in Education for Upper Secondary School) 40, 180, 200, 220 points

Table 6.4 Upper Secondary School Teacher Education Course List

Term	4-Year (160 Points)	4.5-Year (180 Points)	5-Year (200 Points)
1 2	Subject 1 1-40 points	Subject 1 1-40 points	Subject 1 1-40 points
3 4	Subject 2 1-40 points	Subject 2 1-40 points	Subject 2 1-40 points
5	Education 1-20 points	Education 1-20 points	Education 1-20 points
6 7	Subj. 1 or 2 41-80 points	Subj. 1 or 2 41-80 points	Subj. 1 or 2 41-80 points
8	Education 21-40 points	Education 21-40 points	Subj. 1 or 2 41-80 points
9		Subj. 1 or 2 61-80 points	Subj. 1 or 2 41-80 points
10			Education 21-40 points

Note: The level of the course is represented by course numbering in the form of 1-40 points or 1-20 points, which represents the first course in a sequence of courses in a department. For further information on course numbering, see Chapter 4.

Specialized Programs

Art Teacher Education (*Bildlärarut-bildning*): The 3-year, 120-point program includes 80 points of theory/art coursework and 40 points of education and practice teaching courses. Grauates may teach in the compulsory and upper secondary schools, adult education, folk high schools, and teacher education programs. Art education is also included in the compulsory school teaching degree.

In addition to the general admission requirements, the special requirements call for 2 or 3 years (depending upon the program) of Swedish, social science, and history in upper secondary school or the equivalent; at least 1 year of studies in two- and three-dimensional art, photography, and art history; and an acceptable portfolio.

Courses include visual communication (4 points), two-dimensional art (17), three-dimensional art (10), graphic art (10), photography, film, television, and video (7), art history (14), politics of culture (6), physical environment (7), pedagogy (10), methodology (10), practice teaching (20), and the thesis project (5).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Bildlärarexamen (Bachelor of Arts in Art Education) 120 points	*Bildlärarexamen* (University Diploma in Art Education) 120 points

Careers Guidance Counseling (*Studie- och Yrkesorientering*): The degree is a 3-year, 120-point program consisting of behavioral science (50 points), practice teaching (20 points), and social sciences (50 points). The program prepares students for study and vocational guidance, information, teaching, and administration activities within compulsory and upper secondary schools, adult education, colleges of higher learning, and job services.

Special admission requirements in addition to the general requirements are 2 years of Swedish, English, and social science in upper secondary school or the equivalent, and 3 years of work experience.

Year 1 requires social science and psychology (40 points including 3 points of practice teaching); year 2 requires science, trade and work, education, information, and teaching (40 points including 10 points of practice teaching); and year 3 requires guidance and teaching (31 points including 10 points of practice teaching), administration, management, and organization of careers education (4 points), and a specialization course (5 points).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på Studie- och Yrkesorienteringslinjen (Bachelor of Education in Careers Guidance Counseling) 120 points	*Studie- och Yrkesvägledarexamen* (University Diploma in Career Counseling) 120 points

Child Welfare Teacher Education (*Barnavårdslärarutbildning*): Until 1988 the program was 3 years, 120 points; between 1988 and 1993 it was offered as a specialization in the 3.5-year, 140-point compulsory school program for grades 4-9; and beginning in 1993 it became a 4.5-year, 180-point or 5-year, 200-point program offered within the program for upper secondary school teachers. The degree grants qualification to teachers of both the child and youth courses.

Special admission requirements in addition to the general requirements are 3 years of Swedish and English, 2 years of psychology, and child knowledge (the latter two require passing of a test) in upper secondary school or the equivalent.

Courses for teaching in the upper secondary school include psychology (20 points), health/social medicine (5), social science (15), child welfare (40), pedagogy (8), methodology (12), practice teaching (20), and additional courses in one area.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Barnavårdslärarexamen (Bachelor of Science in Child Welfare Education) 120, 140 points	*Grundskolläraexamen* (Bachelor of Education [Compulsory Comprehensive School]) 180, 200 points
Grundskollärarexamen (Bachelor of Education [Compulsory Comprehensive School]) 140 points	

Commercial and Clerical Teacher Education (*Handels- och Kontorslärarlinjen*), Skilled Trades Teacher Education (*Industri- och Hantverkslärarlinjen*): Both programs consist of 1 year of education and practice teaching courses. These courses include pedagogy, methodology, and practice teaching. Practice teaching during the first term is 5 weeks long and during the second term 10 weeks at either an upper secondary school or labor market training center. The content of the education courses is related to the area of specialization and the teaching position. In 1993 the curriculum for both programs was the same but separate curriculums are being developed.

Admission to either program requires completion of a 2-year vocational program in upper secondary school or the equivalent. The skilled trades program requires 5 years of working experience or the equivalent; the commercial and clerical program requires 4 years of working experience or the equivalent.

The *Yrkespedagogisk examen* (University Certificate in Vocational Teacher Education) was also awarded for these programs. The one-year, 40-point program was also incorporated into the upper secondary school program beginning July 1993.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på Industri- och Hantverkslärarlinjen (University Certificate in Skilled Trades Education) 40 points	*Gymnasielärarexamen* (University Diploma in Education for Upper Secondary School) 40 points
Högskoleexamen på Handels- och Kontorslärarlinjen (University Certificate in Commercial and Clerical Education) 40 points	*Gymnasielärarexamen* (University Diploma in Education for Upper Secondary School) 40 points

Craft Teacher Education (*Slöjdlärarlinjen*): The 3-year, 120-point program has specializations in the areas of wood and metal or textile crafts. The 1-year, 40-point program required advanced knowledge in the field and/or vocational experience but was no longer offered beginning in 1993. Craft education is primarily taught in compulsory school but also in upper secondary schools, municipal adult programs, and folk high schools.

In addition to general admission requirements, the specific requirements for the program are 3 years of history, 2 years of mathematics, art, natural sciences, and crafts in upper secondary school or the equivalent. The 1-year program is for experienced teachers with 4 years of relevant subject studies.

The 3-year program consists of 80 points of craft studies and 40 points of the pedagogical courses, which include practice teaching. Those who have craft experience may take the 1-year program, which consists of pedagogical coursework only.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Slöjdlärarexamen (University Certificate in Craft Education) 40, 120 points	*Slöjdlärarexamen* (University Diploma in Craft Education) 120 points

Flight Instructor Education (*Flyglärar-linjen*): Flight instructor education is a 1-year, 40-point program that includes a 14-point course in education and 26 points of teaching skills and practice teaching. Graduates may teach at aviation schools or clubs.

Admission requires a Swedish B-certificate for pilots with 300 hours of flying time, aviation physical and psychological tests, and a wide range of flying experience.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Flyglärarexamen (University Certificate for Flight Instructors) 40 points	*Flyglärarexamen* (University Diploma in Aviation Education) 40 points

Folk High School Teacher Education (*Folkhögskollärarlinjen*): The 1-year, 40-point program provides training for teachers in the folk high school programs or work/study associations.

Admission to the program requires completion of at least a 3-year tertiary level program or the equivalent; or 5 years of fulltime experience within a folk high school, youth organization, study circle, popular movement or educational association, or within the Church of Sweden or the equivalent; or 3 years of fulltime experience in a municipal recreation program and 2 years in popular movements and/or educational associations.

The program includes social and general education (5 points), basic methods (5), learning and creative activities (10), individual course (10), and practice teaching (10).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Folkhögskollärarexamen (University Diploma in Folk High School Education) 40 points	*Folkhögskollärarexamen* (University Diploma in Folk High School Education) 40 points

Home Economics Teacher Education (*Hushållslärarutbildning*): Home economics teacher education is a 3-year, 120-point program that includes 80 points in home economics courses and 40 points in education and practice teaching courses. There was a 4-year, 160-point program that combined teaching of home economics education with the fields of biology, chemistry, mathematics, or social science. Since 1988 the 4-year program has been incorporated into the compulsory school program, grades 4-9, as a specialization. Completion of either program qualifies students for employment as teachers in comprehensive and upper secondary schools, adult education programs, or schools for the disabled, and as workers in industry.

In addition to the general requirements, the special admission requirements to the 3-year program are 3 years of Swedish, English, and social science and 2 years of mathematics in the upper secondary school or the equivalent. Admission to the 4-year program requires 3 years of social science and 2 years of mathematics, social and family science, foods, home economics, and consumer science in the upper secondary school or the equivalent.

Courses in the program include home economics technology (7 points), food and nutrition (45), home and environment (18), consumer economics and management (9) individual, family, co-habitation (8), home economics planning (3), global resources (4), special project (4), pedagogics and methodology (20), and practice teaching (20).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Hushållslärarexamen (Bachelor of Science in Home Economics Education) 120 points	*Hushållslärarexamen* (University Diploma in Home Economics Education) 120 points
Ämneslärarexamen på Hushållslärarlinjen och (field) (Master of Science in Home Economics and [second field] Education) 160, 180 points	*Grundskollärarexamen* (University Diploma in Education for Primary and Secondary School) 160, 180 points

Music Teacher Education (*Musiklärar-linjen*): (see music section in Chapter 5).

Nursing Teacher Education (*Vårdlärar-linjen*): The 1.5-year, 60-point program combined pedagogy and health-related courses. Beginning in 1993, a 1-year, 40-point program replaces the 60-point program. It is entirely made up of pedagogy courses, and has a separate bridge program for students who lack the health-related courses. The program prepares students as teachers in the upper secondary school, colleges of health, labor market training, and adult education. The courses build on knowledge and experience from previous vo-cational education and training.

Admission to the program requires completion of a first degree in a health-related field and 2 years of related work experience.

The health courses focus on one of the following areas: occupational therapy, nursing, audiology, laboratory methods, operating room nursing, radiotherapy/radiology, physiotherapy, or social welfare. Credit is evaluated on the basis of oral and written examinations, individual work, team work, and seminars. The former program included health-related courses: health and health care (10 points), social medicine and services (3), anatomy and physiology (3), pharmacology (2), and microbiology and hygiene (2); and pedagogy courses: introduction to education (1), science methods (4), school/society (3), educational psychology (3), teaching process, methods, and techniques (8), special work (3), and practice teaching (18). The new program includes courses in pedagogy (20 points) and practice teaching (20).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Vårdlärarexamen (University Diploma in Nursing Education) 40, 60 points	*Gymnasielärarexamen* (University Diploma in Education for Upper Secondary School) 40 points

Physical Education Teacher Education (*Idrottslärarlinjen*): The 3-year, 120-point degree program includes 80 points of area studies and 40 points of education and practice teaching courses. Completion of the degree leads to a qualification to teach at compulsory and upper secondary schools, and in special education programs, fitness programs, and further studies. The 4-year upper secondary program that combined physical education with English, biology, chemistry, or mathematics education has been integrated as a specialization into the compulsory school program for grades 4-9.

Admission requires completion of the 2-year line and 2 years of biology or natural science from upper secondary school or the equivalent. Admission to the 4- or 4.5-year program requires 3 years of sports and 2 years of biology in an upper secondary school or the equivalent.

Courses in area studies for the 3-year program consist of physiology, anatomy, biomechanics, introduction to medicine, sports, outdoor activities, movement, swimming, music, rhythm, and dance. Many of the courses include sections of methodology. The education courses include pedagogy (20 points) including psychology and sociology and practice teaching (20 points) at the different levels of education. The 4- or 4.5-year program requires teaching of a second area and follows the curriculum for upper secondary school teachers.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Idrottslärarexamen (Bachelor of Education in Physical Education Teaching) 120 points	*Idrottslärarexamen* (University Diploma in Physical Education) 120 points
Ämneslärarexamen på Idrottslärarlinjen och (field) (Master of Arts/Science in Physical Education and [second field] Education) 160, 180 points	*Grundskollärarexamen* (University Diploma for Primary and Secondary School) 160, 180 points
	Gymnasielärarexamen (University Diploma in Education for Upper Secondary School) 180, 200 points

Special Education Teacher Education (*Specialpedagogisk påbyggnadsutbildning*): Training for teaching in the compulsory school began in 1968, replacing the short courses that had been used to train teachers. In 1990 a 1- to 1.5-year curriculum was developed for special education. It is composed of four specializations: complicated learning situations, 60-point program for teaching in the compulsory school and among adults, 40-point program for child care and upper secondary school teaching; deafness and hearing impairment, 60-point program; blindness and visual impairment, 60-point program; and mentally handicapped, 60-point program: specialization in child care and school child care, compulsory-level school, school for severely mentally handicapped children, vocational school for the mentally handicapped, adult education/adult rehabilitation. Beginning July 1993 the programs were reduced to 1 year or 40 points. The program requires qualification as a teacher with 5 years of experience.

Courses are offered in the following four areas: common specialization course (20 points includes study of individual development and special education development in Sweden, teacher orientation); specialized courses in area of concentration (7-18 points); practice teaching (8-15 points; for a 12-point program the placement is fulltime for 2 weeks during the first term, 4 weeks during the second, and 6 weeks during the third; students can complete their practice teaching locally or in one of the other Nordic countries); and a special project (5-10 points in the specialization that forms part of the final examination). Courses in special educational needs can be added to the above programs for 20 to 40 points. Courses include specific courses and fieldwork within the specialization.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Specialpedagogexamen (Postgraduate Diploma in Special Education) 40, 60 points	*Specialpedagogexamen* (University Diploma in Special Education) 40 points

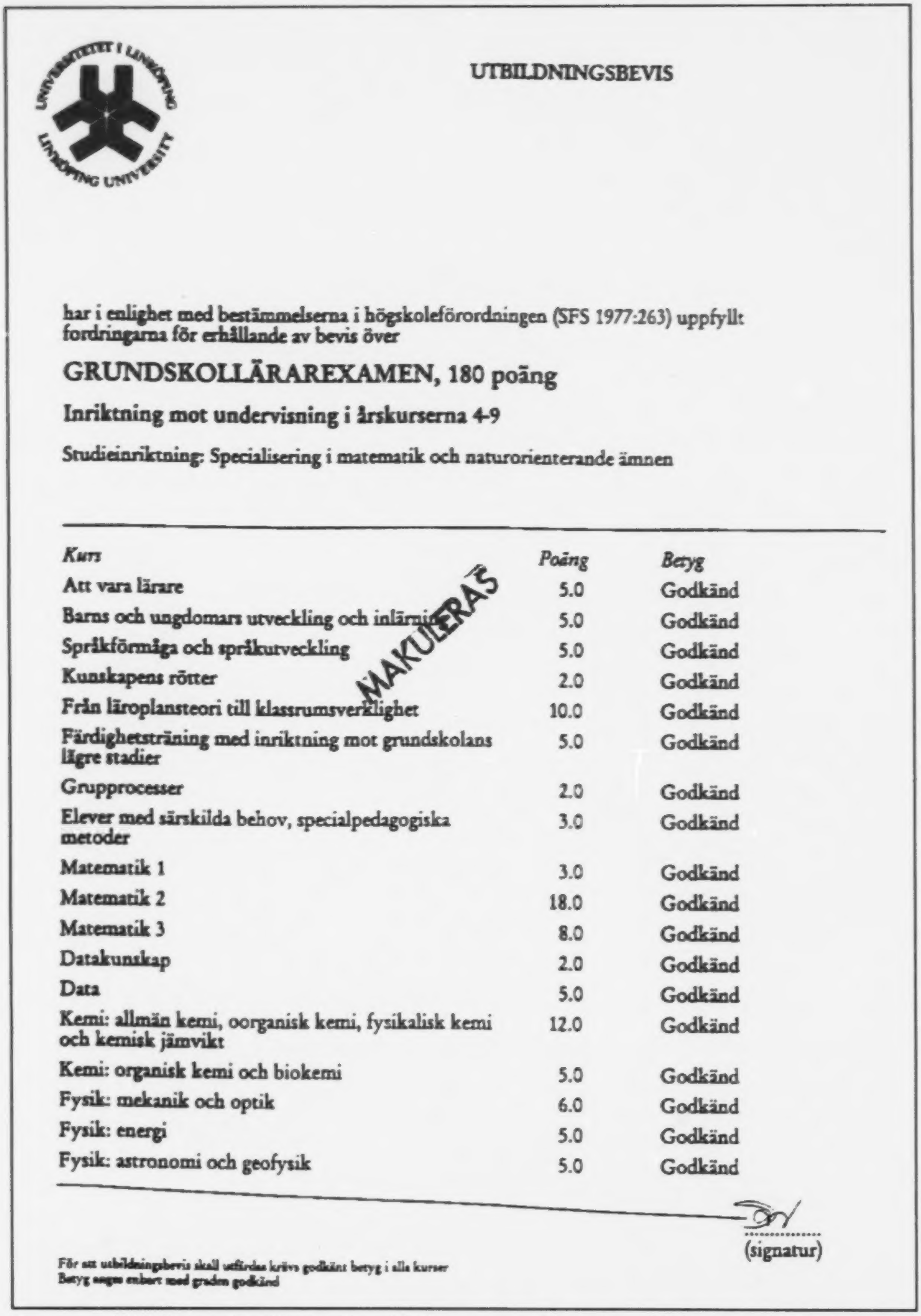
Textile Craft Teacher Education (*Textillärarutbildning*): The degree is a 3-year, 120-point program that comprises 80 points of textile craft coursework and 40 points of education and practice teaching courses. There was also a 4-year, 160-point program that combined teaching of textile crafts with another field. Since 1988 the 4-year program has been incorporated into the compulsory school program, grades 4-9, as a specialization. Graduates are qualified to work in compulsory, upper secondary, and folk high schools; in schools for the handicapped; in the labor market; and in adult education programs. In addition to the general requirements, the special admission requirements are 3 years of upper secondary school with course work in history, natural science, design, sewing, and weaving.

Courses include yarn technology (20 points), embroidery and sewing (20), form and function (20), design and sewing (20), degree project (5), pedagogy/methodology (25), and practice teaching (10).

Principal Credentials Prior to July 1993	Credentials As of July 1993
Textillärarexamen (Bachelor of Arts in Textile Craft Education) 120 points	*Slöjdlärarexamen med inriktning mot textilslöjd* (University Diploma in Craft Education-Textiles) 120 points
Ämneslärarexamen på Textillärarlinjen (Master of Arts/Science in Textile Craft and [second field] Education) 160 points	*Grundskollärarexamen* (University Diploma in Education for Primary and Secondary School) 160, 180 points

Advanced Courses (*Påbyggnadsutbildningar*): Except for the programs that have already been described above, most of the advanced courses required a first degree and provided specialization in the same field or in a second field. These courses last for 1 or more semesters, and were created and offered by the institution to meet a local need. In some cases, teachers take the program to qualify to teach in another area or at a different level or to become administrators. Pedagogy courses are also available to those who have experience as preschool or recreation teachers and wish to teach these courses at the university colleges.

Principal Credentials Prior to July 1993	Credentials As of July 1993
Högskoleexamen på Påbyggnadslinjen Utbildning i (field) (Postgraduate Diploma in [field]) points vary	*Bevis* (Certificate) points vary



UTBILDNINGSBEVIS

har i enlighet med bestämmelserna i högskoleförordningen (SFS 1977:263) uppfyllt fordringarna för erhållande av bevis över

GRUNDSKOLLÄRAREXAMEN, 180 poäng

Inriktning mot undervisning i årskurserna 4-9

Studieinriktning: Specialisering i matematik och naturorienterande ämnen

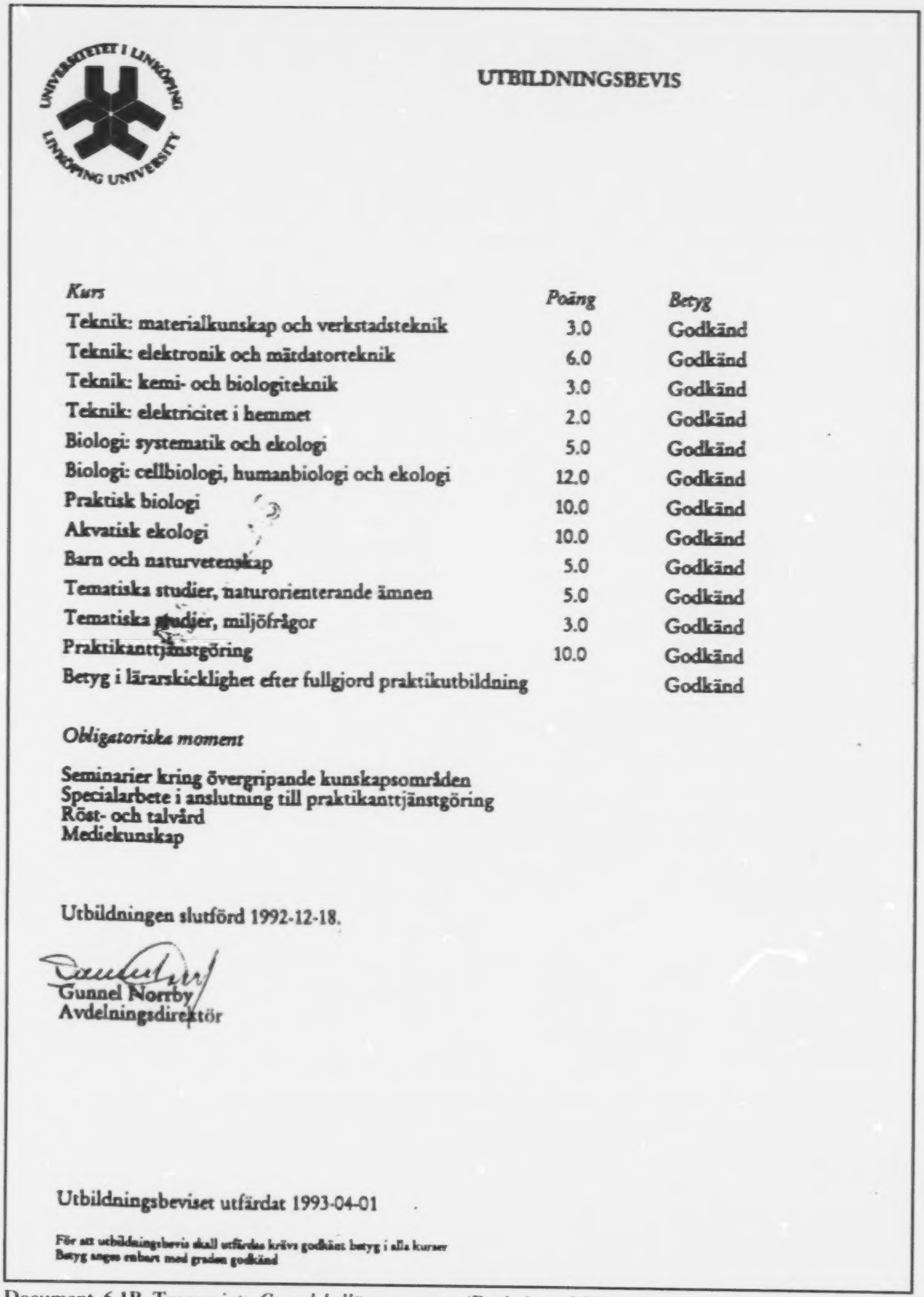
MAKULERAS

Kurs	*Poäng*	*Betyg*
Att vara lärare	5.0	Godkänd
Barns och ungdomars utveckling och inlärning	5.0	Godkänd
Språkförmåga och språkutveckling	5.0	Godkänd
Kunskapens rötter	2.0	Godkänd
Från läroplansteori till klassrumsverklighet	10.0	Godkänd
Färdighetsträning med inriktning mot grundskolans lägre stadier	5.0	Godkänd
Grupprocesser	2.0	Godkänd
Elever med särskilda behov, specialpedagogiska metoder	3.0	Godkänd
Matematik 1	3.0	Godkänd
Matematik 2	18.0	Godkänd
Matematik 3	8.0	Godkänd
Datakunskap	2.0	Godkänd
Data	5.0	Godkänd
Kemi: allmän kemi, oorganisk kemi, fysikalisk kemi och kemisk jämvikt	12.0	Godkänd
Kemi: organisk kemi och biokemi	5.0	Godkänd
Fysik: mekanik och optik	6.0	Godkänd
Fysik: energi	5.0	Godkänd
Fysik: astronomi och geofysik	5.0	Godkänd

(signatur)

För att utbildningsbevis skall utfärdas krävs godkänt betyg i alla kurser
Betyg anges enbart med graden godkänd

Document 6.1A Degree Certificate; *Grundskollärarexamen* (Bachelor of Education, Compulsory Comprehensive School Teacher Education, grades 4 to 9)



UNIVERSITETET I LINKÖPING
LINKÖPING UNIVERSITY

UTBILDNINGSBEVIS

Kurs	*Poäng*	*Betyg*
Teknik: materialkunskap och verkstadsteknik	3.0	Godkänd
Teknik: elektronik och mätdatorteknik	6.0	Godkänd
Teknik: kemi- och biologiteknik	3.0	Godkänd
Teknik: elektricitet i hemmet	2.0	Godkänd
Biologi: systematik och ekologi	5.0	Godkänd
Biologi: cellbiologi, humanbiologi och ekologi	12.0	Godkänd
Praktisk biologi	10.0	Godkänd
Akvatisk ekologi	10.0	Godkänd
Barn och naturvetenskap	5.0	Godkänd
Tematiska studier, naturorienterande ämnen	5.0	Godkänd
Tematiska studier, miljöfrågor	3.0	Godkänd
Praktikanttjänstgöring	10.0	Godkänd
Betyg i lärarskicklighet efter fullgjord praktikutbildning		Godkänd

Obligatoriska moment

Seminarier kring övergripande kunskapsområden
Specialarbete i anslutning till praktikanttjänstgöring
Röst- och talvård
Mediekunskap

Utbildningen slutförd 1992-12-18.

Gunnel Norrby
Avdelningsdirektör

Utbildningsbeviset utfärdat 1993-04-01

För att utbildningsbevis skall utfärdas krävs godkänt betyg i alla kurser
Betyg anges enbart med graden godkänd

Document 6.1B Transcript; *Grundskollärarexamen* (Bachelor of Education for Compulsory Comprehensive School Teacher Education, grades 4 to 9)

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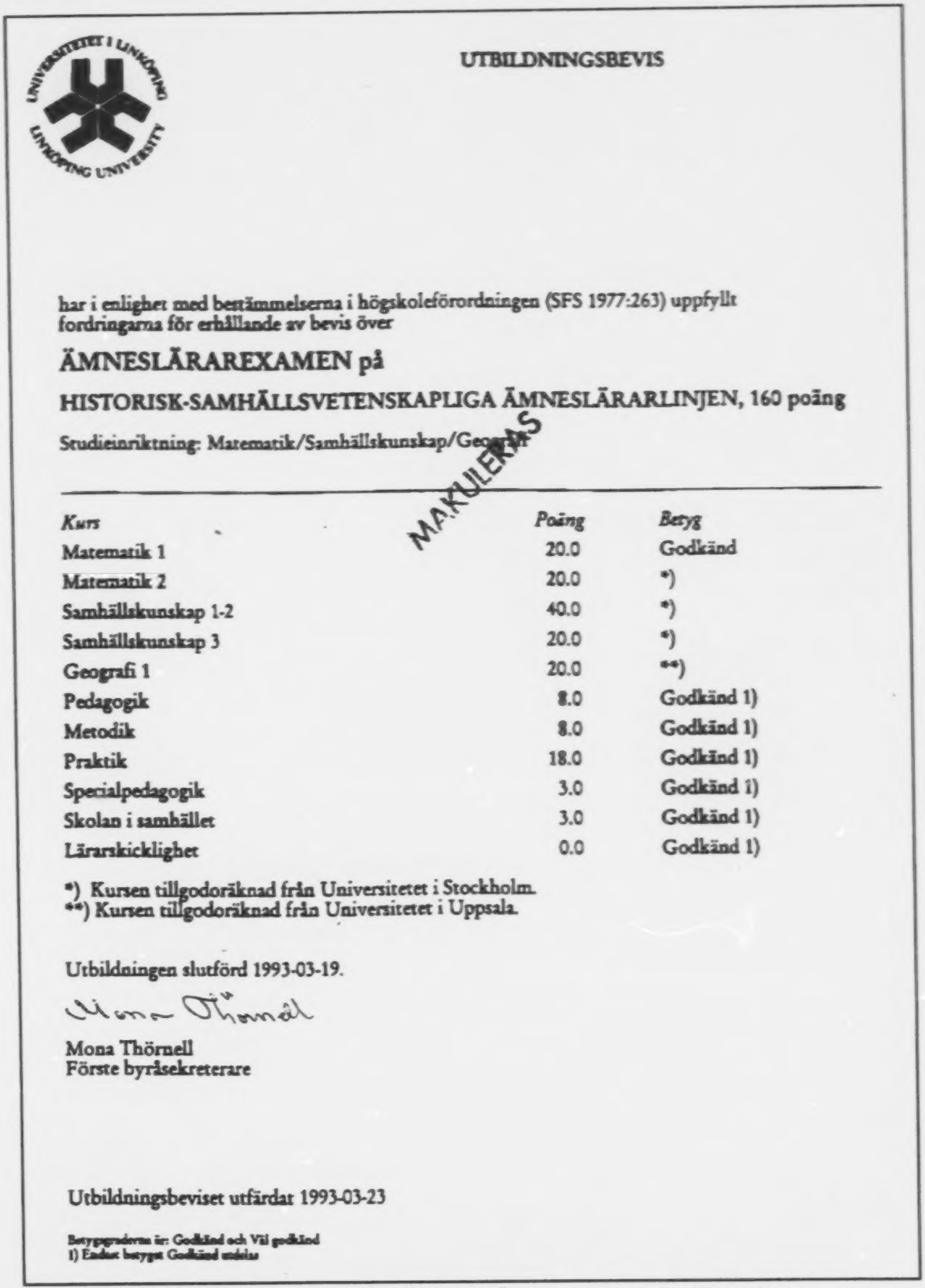


UTBILDNINGSBEVIS

har i enlighet med bestämmelserna i högskoleförordningen (SFS 1977:263) uppfyllt fordringarna för erhållande av bevis över

ÄMNESLÄRAREXAMEN på

HISTORISK-SAMHÄLLSVETENSKAPLIGA ÄMNESLÄRARLINJEN, 160 poäng

Studieinriktning: Matematik/Samhällskunskap/Geografi

MAKULERAS

Kurs	*Poäng*	*Betyg*
Matematik 1	20.0	Godkänd
Matematik 2	20.0	*)
Samhällskunskap 1-2	40.0	*)
Samhällskunskap 3	20.0	*)
Geografi 1	20.0	**)
Pedagogik	8.0	Godkänd 1)
Metodik	8.0	Godkänd 1)
Praktik	18.0	Godkänd 1)
Specialpedagogik	3.0	Godkänd 1)
Skolan i samhället	3.0	Godkänd 1)
Lärarskicklighet	0.0	Godkänd 1)

*) Kursen tillgodoräknad från Universitetet i Stockholm.
**) Kursen tillgodoräknad från Universitetet i Uppsala.

Utbildningen slutförd 1993-03-19.

Mona Thörnell

Mona Thörnell
Förste byråsekreterare

Utbildningsbeviset utfärdat 1993-03-23

Betygsgraderna är: Godkänd och Väl godkänd
1) Endast betyget Godkänd utdelas

Document 6.2 Degree Certificate and Transcript for *Ämneslärarexamen på Historisk-Samhällsvetenskapliga Äamneslärarlingen* (Master of Social Sciences in History-Social Sciences for Upper Secondary and Adult Teacher Education)

Chapter 7

Non-Traditional Education: Adult and Postsecondary Programs

Adult Education

It has been estimated that half of the adult population of Sweden is involved in some form of adult education (*folkbildningsarbete*). This is probably an overestimation since the figures used are the number of participants in all of the courses and not the number of individuals. But even accounting for some duplication, it is still a very high number. The Folk High Schools (*Folkhögskolor*) were first begun in Sweden in 1868 and were soon followed in 1902 by study circles (*studiecirklar*), groups that form to study a particular topic. During the 1960s and 1970s, the municipal and state governments began programs for adults and the Labor Market Board, unions, associations, companies, and public agencies sponsored job training programs. Although each of the programs focused on a specific segment of the population, the goals were basically the same: lifelong learning.

One major change attributable to the Reform of 1977 was the increase in compulsory schooling from 7 years of education to 9. This change caused repercussions in the working population as the majority of adults lacked these 2 years of required education and additional vocational training. In 1973, 70% of the 20-65 age group had no more than 7 years of education. An additional 20% had 9 years of education and less than 10% had completed the equivalent of upper secondary education. Around 3% had the equivalent of a university education. The upper secondary school was now comprehensive and open to all who finished compulsory school. More young adults would be entering the job market with greater skills and education than the previous generation. In fairness to the adult population and with the knowledge that further education and training would increase productivity, additional programs were initiated to meet these needs. The central government subsidizes most of the programs and has also given many of the participants grants or loans to help cover costs. The government has also encouraged the establishment of programs in all geographic areas of Sweden, including more than 20 programs of fulltime and part-time schools for its nomadic population.

In 1981 employers were required to make a special payroll deduction to fund the study allowances, native language programs, study circles for the disabled, and outreach programs for adults with less than 9 years of education. All employees had the right to take an unpaid leave of absence during working hours for any type of study for any length of time. As a result, a greater percentage of participants taking adult education courses continued on to complete upper secondary courses and even higher education courses. With 10% of the national budget earmarked for education, the government has continued to increase subsidies to programs for this group. Since 1973 immigrants may take up to 240 hours of Swedish lessons during working hours, with full pay, and more recently the number of hours has increased.

More specifically, the goals of the adult programs have been to raise the level of general knowledge, to increase the participation in cultural, social, and political activities, further democratization, broaden skills, and serve the needs of the individual. Guidelines have been set by Parliament and the central government for study circles, Municipal Adult Education, and Folk High Schools. The National Board of Education is responsible for supervision of these programs. The Board, along with the Labor Market Board, administers Labor Market training programs.

Basic Education

Basic education (*Grundvux*) has been in existence since the ordinance of 1977. The function of the school is to educate adults whose reading and writing skills are below the fifth grade level, but the majority of 25,600 (1991-1992) participants are immigrants who cannot read or write in their own language or have had less than 5 years of equivalent education in their native country. Since 1992 all programs have been incorporated into the municipal adult education programs.

National School for Adults

The two national schools for adults (*Statens Skolor för Vuxna*) are located at Norrköping and Härnösand. They are administered by the central government and are primarily correspondence schools for students who do not have adult education programs in their vicinity or are not able to attend one. The courses are either strictly correspondence or correspondence with short intensive sections taken on-site.

Study Circles

Study circles (*Studiecirklar*) began in 1902 as part of the temperance movement. The Workers' Educational Association (ABF), which grew out of the labor movement, began its own study circle in 1912 to prepare its workers for new technologies. Since that time, the number of adult education associations (*studieförbund*) that administer the study circles has increased to 11. The government funds about 40% of the costs and the remainder comes from fees and municipal grants. The number of individual circles and enrollments has grown dramatically since 1912. By 1991, 2.8 million participants were enrolled in 323,000 circles.

The subject and content of the courses is determined by the group and is under the general direction of a group leader who coordinates but does not teach. Approximately two-thirds of the classes are focused on arts and civics; the remainder are courses in such areas as languages, literature, and handicrafts. The average length of the study circle is about 8 to 10 meetings for about 30 hours total.

Study circles devoted to higher education account for about 1% of the total course offerings. Students who complete an approved course may take an examination at the university to earn credit.

Folk High Schools

The tradition of Folk High Schools (*Folkhögskolor*) was begun by the church in Denmark and soon spread throughout the Scandinavian region. Sweden began its first school in 1868 to educate the rural adult population and by 1918 there were 51 schools. During the educational reform of the 1960s, there was a rapid increase in the number of schools whose focus was on helping adults meet the new standards of education that were now required. Specific courses for immigrants and the disabled were also established to meet their special needs.

The county councils and municipal authorities have organized 48 out of a total of 132 schools and the remainder are run by the trade unions, churches, temperance societies, or other nonprofit organizations. The schools are subsidized by the government and are free except for room and board, which in many cases is covered by government grants. Students must be at least 18 years old in order to be admitted. By 1989 there were 250,000 participants. Instructors are specially trained at the University of Linköping in a 1-year folk high school teacher education program (*folkhögskollärarlinjen*). Instructors for the schools are required to have completed a university degree and have some experience or knowledge of adult education.

Some schools specialize in one area of study such as music, theater, or media, while others are broader in scope. The curriculum, which must stay within the code for Folk High Schools, has no standard syllabus or specifically required subjects. Each school is free to develop the focus and content of each course. The courses tend to be topic oriented rather than subject oriented. In the beginning, courses met for 20 weeks during the winter months to accommodate the rural participants. The courses, which now vary from 2 to 30 weeks, are offered year-round and appeal to the general population. Ninety percent of the students take short-term courses, usually 2 to 8 weeks, in such subjects as music, sports, labor problems, religion, and scientific or practical areas. The long-term courses include both continuing education and leadership training.

There are 1- to 3-year programs for adults who have not completed a formal education. The courses cover a broad range of subjects. For example, in Document 7.1 at the end of this chapter, the student has completed general coursework in Swedish, English, leadership, public administration, sports, anatomy and physiology, and health. A certificate/transcript (*intyg*) from the school indicates the total amount of study was 34 weeks; the number of hours or weeks for each course is also indicated. The student has completed the equivalent of a 2-year line in upper secondary school and also fulfills the general requirements for admission to university study. A certificate may also be issued for the completion of each course (*Intyg om särskild behörighet*) or general program (*Intyg om allmän behörighet*).

Municipal Adult Education

The Municipal Adult Education (*Kommunal Vuxenutbildning/Komvux*) programs, established in 1968, are patterned after the study circle. They offer courses to complete upper secondary school or prepare students for higher education. The municipal programs are both academic and vocational and in the beginning were referred to as Evening Schools (*Kvällsgymnasium*). Schools are now located in most municipalities and are usually housed in the compulsory and upper secondary school buildings, with a few of the larger programs located in their own structures. In large cities, courses are offered both in the mornings and evenings. Teachers from regular schools are employed by the municipal program to teach part-time in the evening programs.

Of the 309,400 participants (1991), 50% were taking upper secondary courses, 25% were taking vocational courses in order to improve their professional qualifications, and the remainder were taking compulsory level courses. Many of the individuals enroll in upper secondary courses to complete special requirements for entrance to tertiary institutions.

The courses follow the regular school curriculum for grades 7 through 9 and various study lines and courses in upper secondary school. The curriculum is more concentrated (half the number of contact hours as regular school) and in modules that allow more flexibility to fit student schedules. The vocational courses can be short, entry level or fulltime, advanced training. Students normally take one to three courses per semester, with day students usually fulltime and evening students part-time. The certificate of completion (*Avgångsbetyg efter Fullstandig Studiekurs i Kommunal eller Statlig Vuxenutbildning*) was awarded until 1983 and after that time a new certificate (*Betyg Kommunal Vuxenutbildning*) has been awarded. Both are equivalent to those in the regular school system.

Radio, TV, and Correspondence Schools

The radio and TV educational programs (*Utbildningsradion* and *Brevskolor*) are produced by a corporation funded by the government. The programs are aired within the school system and also publicly. The course is supplemented with printed materials.

There are two types of correspondence schools: *Hermods* (compulsory, upper secondary school and university level courses) and *Brevskolan* (courses for special interest organizations). The correspondence schools have recently started to combine their study programs with study circles or broadcast education. There are 6,000 students enrolled in courses. Some tertiary institutions also offer correspondence courses, which usually require some work on the campus.

Employment Training

The county labor boards and employment offices provide Employment Training (*Arbetsmarknadsutbildning*) to adults who are unemployed, about to be unemployed, or difficult to place. During 1992 approximately one-third of the work force was involved in some form of training that was paid for by the employer. Employer federations, trade associations, and government agencies also offer courses for their own members or employees.

Folk University

The Folk University (*Folkuniversitetet*) began in the 1930s and 1940s and became a national organization in 1942. At present, there are five main centers (Stockholm, Uppsala, Göteborg, Lund, and Umeå) with 45 local offices. There are 350 fulltime and 5,000 to 6,000 part-time teachers or leaders, and about 200,000 participants in courses. Folk universities have no official affiliation with the universities, but courses may be taught by university professors and university representatives may sit on the board. Most universities do not accept their courses for transfer credit but some university colleges might. Courses in law, economics, computer science, marketing and information, languages, and other subjects are offered. There are also cultural activities and studies in art, music, and drama. Unlike the other forms of adult education, there is a fee for each course and a certificate is awarded.

Postsecondary Programs

***City-Universitetet* (City University of Stockholm), Box 5234, S-102 45 Stockholm, Tel: 46 8 670 35 00.**

Est. in 1988 by Timbro Corporation, a publishing company, offers short courses in the area of political science. Admission to the program requires completion of at least 2 years of university level coursework. There are no degrees, the institution receives no government funds, and the courses are not recognized by the Swedish university system.

***Edsbergs Musikinstitut* (Edsberg Institute of Music), Landsnoravagen 10, S-191 51 Sollentuna.**

Est. in 1958 by the Swedish Broadcasting Corporation, formerly known as *Stiftelsen Edsbergs Musikskola*. It provides training to musically gifted performers aged 16 to 24. Admission is by audition and is very competitive. Enrollment is only 25 students.

Ingesunds Musikhögskolan **(Ingesund College of Music), S-671 91 Arvika. Tel: 46 570 146 00, Fax: 46 570 804 38.**

Est. in 1905 by the municipality. The college is organized into divisions of voice, ensemble, instruments, theory, musical drama, and music education. The institution awards the *Musiklärarexamen* for the 4-year, 160-point program in music education. The degree is officially recognized by the government. There is a joint program for music teachers that is given with the University College of Karlstad. Students complete their music training at the music college; the remainder of their program is taken at Karlstad, which awards the degree.

Institutet för Högre Marknadsforingsutbildning/IHM **(IHM Business School), Warfvinges Väg 21, Box 30163, S-104 25, Stockholm. Tel: 46 08 13 07 85, Fax: 46 08 656 90 44.**

Est. in Göteborg in 1966 to meet the demand for a special training program in marketing management. It is a private school that receives no government funding and its courses are not recognized by the Swedish university system. At present the school has branches in Stockholm, Göteborg, Malmö, Helsingborg, Örebro, Linköping, Norrköping, Karlstad, and Oslo.

Programs are offered in business field specialties such as purchasing management, management control, public relations, and copywriting. The school offers a diploma program, special programs for companies (e.g., Volvo), and an *IHM* Executive Program designed to meet training requests from the top management levels. The diploma program, which includes several specialties, requires 2 years of study and involves practical problems and practical experience. It leads to the *DIHM* Diploma. The diploma indicates a specialty (e.g., *Marknadsekonom DIHM, Informatör DIHM, Copywriter DIHM, Controller DIHM*). At the end of 1992, 7,500 students had received the *DIHM*.

IHM has a joint international education program with Johnson & Wales University in the United States. Students can study for a Bachelo'r degree at both of the programs in Sweden and the United States.

Järnaseminariet/Stiftelsen Rudolf Steinerseminariet i Järna **(Järna Teacher Training Seminary), S-153 91 Järna. Tel: 46 8 551 503 25.**

The course of study at Järna Teacher Training Seminary is based on the pedagogical philosophy of Rudolf Steiner. The seminary is run by a private foundation, receives no government funding, and may not issue government degrees. The seminary, under the supervision of the government, meets the official standards for courses. Students may receive financial aid and are qualified for teaching positions within the public schools.

Militärjänst **(Military Programs), Armed Forces Staff and War College, Valhallavägen 117, Box 27805, S-115 93 Stockholm. Air Force/Army/Marine Information, S-107 82 Stockholm, Tel: 46 08 788 75 00.**

Each branch of military service offers advanced officer training courses. After reaching a certain rank, officers are selected to further their education at the Armed Forces Staff and War College. The college provides training for professional and reserve officers for senior positions. The college carries out investigations and studies in military history, military/political and military/organizational issues, and modern warfare. There are five lines of study: tactical, staff, technical, operational, and military history. The highest level of training is offered at the Military College, which provides general instruction and specialized instruction in communication and medicine.

Nordiska Hälsovårdshögskolan **(The Nordic College of Health), Box 12133, S-402 42 Göteborg. Tel: 46 31 69 17 77.**

Est. and administered in Göteborg by the Nordic Council. Courses provide further training for Nordic medical personnel. The College awards a Master of Public Health, which has no official recognition within the Swedish university system.

Nordiska Journalisthögskolan i Mullsjö **(Nordic College of Journalism), Box 84, S-565 00 Mullsjö. Tel: 46 392 115 00.**

Est. in Mullsjö, receives no government support and does not award degrees; has been unsuccessful in attempts to receive official recognition.

Polishögskolan **(Swedish National Police College), Polishögskolan, Sörentorp, S-171 92 Solna. Tel: 46 08 769 80 00, Fax: 46 08 769 95 13.**

Training for the Swedish police force is provided in Solna. The programs are open to both men and women. Admission requires one of the following: a 3-year gymnasium program with an average grade of at least 3.0; a certificate from a 2-year or more gymnasium program with grades of at least 3.0 in Swedish, English, and social studies; age 25 with 4 years of work experience and 3 years of Swedish, English, and social studies from upper secondary school or the equivalent; or *folkhögskole* training with studies in Swedish, English, and social studies verified by the school's rector. Further requirements include Swedish citizenship, at least 20 years of age, at least 1 year of work experience, suitable physical skills, a driving license, satisfactory eyesight, good physical condition, and the ability to swim. The basic course is divided into three parts:

1. a 40-week, 40-point, introductory course that includes methods of police activity (8), traffic police duties (6.5), technique of queuing cars (1.5), criminal policy activity (5), criminal techniques (1.5), law including general, civil, punishment, and special law (5), psychology with psychiatry (2.5), social and criminal politics (2), physical training (4), methods, analysis, and problem solving (.5), Swedish (20).
2. 18 weeks of practical training of which at least 6 months is in criminal police activities and 6 months in general police activities, including traffic control.
3. a 20-week, 20-point continuing course that includes further studies in methods of police activity (3.5), traffic police duties (1), criminal policy activities (3), criminal techniques (1.5), further studies in civil, general, and special law (3), introduction to management (1), psychology with psychiatry (1.5), social and criminal politics (1.5), physical training (2), special project (1).

A certificate is issued after each of the three sections of the program. On completion students are given the title of *Polis*. The studies are not recognized in Sweden toward university degrees. Advanced specialization training is also available, with a 15-week course preparing students for police management roles.

***Skandinaviska Flygakademien Akademi* (Scandinavian Flight Academy), Bellmansgatan 10, S-411 28 Göteborg. Tel: 46 31 11 17 78, Fax: 46 31 11 52 11.**

Est. in Göteborg, offers technical courses for engineers. It offers no degrees and receives no government funding or recognition. The Academy has been seeking official recognition for the courses so that they may be transferred to degree granting programs.

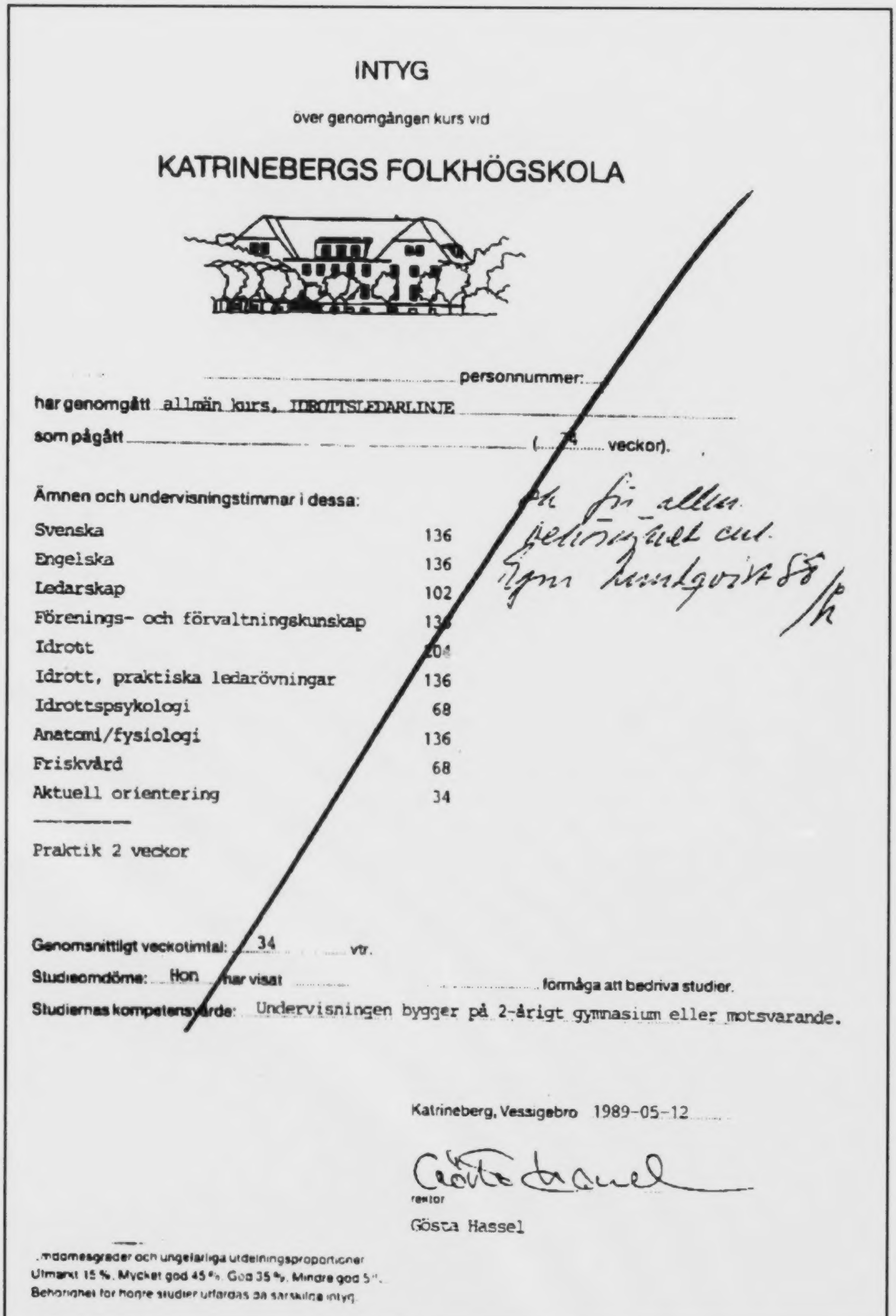
***Sköndalsinstitutet* (Sköndal Institute), Sköndalsvägen 115, S-128 85 Farsta. Tel: 46 08 605 06 00, Fax: 46 08 605 09 16.**

Est. in 1898 as the Swedish Society of Deacons and Church Welfare Workers and was the first school for the education of deacons and welfare workers. In 1948 the social sciences program was opened to females. In 1959 the first courses for church musicians began and is currently supervised by the Royal Academy of Music. It started receiving state funding in 1964. The Institution includes the departments of deacons (*diakon*), church music (*kyrkomusiker*), and social work (*socionom*). (See Chapter 5, Social Work.)

Principal Credentials Prior to July 1993	Credentials As of July 1993
Kantorexamen (Cantor) 80 points, not recognized by the government	*Kantorexamen* (Cantor) 80 points, not recognized by the government
Social examen (Bachelor of Science in Social Work) 160 points, including a 20-point deacon course. Same as the *Socionomexamen* but degree title was changed to reflect the additional course	*Socionomexamen* (University Diploma in Social Work) 160 points, including a 20-point deacon course
Not offered	*Diakoni - Påbyggnad på Socionomexamen* (Deacon) 20 points beyond the *Socionomexamen*, not recognized by the government

The World Maritime University/WMU, Box 500, S-201 24 Malmö. Tel: 46 40 35 63 00, Fax: 46 8 670 35 00.

Est. and administered in Malmö by the United Nations. The university offers Master's degrees in nautical studies, which receive no official recognition from the Swedish university system, and has no connection with state universities.



INTYG

över genomgången kurs vid

KATRINEBERGS FOLKHÖGSKOLA

personnummer:

har genomgått allmän kurs, IDROTTSLEDARLINJE

som pågått (.[illegible]. veckor).

Ämnen och undervisningstimmar i dessa:

Svenska	136
Engelska	136
Ledarskap	102
Förenings- och förvaltningskunskap	136
Idrott	204
Idrott, praktiska ledarövningar	136
Idrottspsykologi	68
Anatomi/fysiologi	136
Friskvård	68
Aktuell orientering	34

Praktik 2 veckor

Ok för allm.
behörighet enl.
Agne Lundqvist 88/k

Genomsnittligt veckotimtal: 34 vtr.

Studieomdöme: Hon har visat formåga att bedriva studier.

Studiernas kompetensvärde: Undervisningen bygger på 2-årigt gymnasium eller motsvarande.

Katrineberg, Vessigebro 1989-05-12

rektor

Gösta Hassel

Omdömesgrader och ungefärliga utdelningsproportioner
Utmärkt 15 %, Mycket god 45 %, God 35 %, Mindre god 5 %.
Behörighet för högre studier utfärdas på särskilda intyg.

Document 7.1 Leaving Certificate and Course List from a Folk High School Indicating Completion of a 2-Year Upper Secondary School Sports Line

Chapter 8

Internationalization and Study Abroad

Sweden has been fully committed to increasing international opportunities in academic programs since 1974. The country has been involved in Nordic cooperation activities for many years and is at present a full partner in ERASMUS and other European student mobility programs. There is great interest in developing programs in English and in increasing the number of students studying under bilateral agreements. The goal is to send every Swedish student to another country for a half-year of study.

Nordic Cooperation

The Nordic Council, with representatives from Denmark, Finland, Iceland, Norway, and Sweden, was founded in 1947, and the Nordic Council of Ministers in 1971. Because of agreements made by these bodies, citizens can travel freely between the five Nordic countries without passports. Transport and communication links are being developed among the countries, cooperative research is undertaken in many fields, and a number of other arrangements exist in the education field. Examples of the latter are the Nordic Institute for Studies in Urban and Regional Planning, located in Stockholm, and the Nordic School of Public Health in Göteborg, Sweden. Specialized courses are open to citizens of any of the countries and Nordic students may enroll freely in universities within the Nordic area. There is not, however, general recognition of academic qualifications by the educational institutions within the area. Each secondary school, university, and college in each country decides whether credit will be given for study, certificates, or degrees awarded in one of the other Nordic countries.

The NORDPLUS (Nordic Programme for the Mobility of University Students and Teachers) program begun in 1988 was developed by the Nordic Council of Ministers. The goals are to promote wide ranging and intensive cooperation among the universities of the Nordic countries with a view to establishing a Nordic educational community, to substantially increase the number of university students carrying out an integrated and fully recognized period of study in another Nordic country, and to encourage the increased mobility of teaching staff. NORDPLUS provides grants for fulltime studies on the undergraduate level for up to one full academic year with full credit given at the student's home university. The grants supplement the regular study grants provided in each country.

Programs for U.S. Students

An increasing number of courses and full programs are being offered in English. Students who are interested in study in Sweden should write directly to the university offering the program in which they are interested and inquire about the offerings in English. In many advanced courses if there are students in the class who prefer instruction in English, the whole course will be taught in English. Information on universities in Sweden is available through The Swedish Institute, Box 7434, S-103 91 Stockholm, Sweden; Tel: +46 8 789 20 00; Fax: +46 8 20 72 48.

Many folk high schools and folk universities offer instruction in the Swedish language, and their addresses can be obtained from the Swedish Institute, above. The Swedish Information Service also publishes a comprehensive listing of summer courses in Sweden. For information, contact the service at One Dag Hammarskjöld Plaza, New York, NY 10017-2201; Tel: (212) 751-5900; Fax: (212) 752-4789.

The following programs are listed according to city in which they are located.

Borås

Gustavus Adolphus College offers a fall semester program at the University College of Borås in business/management and computer science, conducted in English, and a Swedish language course. It also includes excursions and field trips. The program is open to sophomores and juniors with a grade point average of 2.75. For more information, contact: International Education, Gustavus Adolphus College, St. Peter, MN 56082; Tel: (507) 933-7545; Fax: (507) 933-7041.

Göteborg

Chalmers University of Technology offers a year-long program in engineering; materials science/technology; Swedish studies, which is conducted in English; and beginning Swedish language. The program is open to graduates in chemical or mechanical engineering. For more information, contact: Mechanical and Vehicular Engineering, Chalmers University of Technology, S-412 96, Göteborg, Sweden; Tel: +46 31 721179; Fax: +46 31 721192.

Karlstad

Gustavus Adolphus College offers a semester or year program at the University College of Karlstad in business/management computer science; ethnology; political science/politics; religion/theology; Swedish studies in English; and beginning, intermediate, or advanced Swedish language. The program also includes excursions and field trips. It is open to juniors and seniors who have completed 2 years of Swedish with a grade point average of 2.75. For more information, contact: International Education, Gustavus Adolphus College, St. Peter, MN 56082; Tel: (507) 933-7545; Fax: (507) 933-7041.

University College of Karlstad offers a semester or year program. Students may choose from a large selection of courses taught in English. Program includes a 1-week intensive Swedish language course. For information, contact: University College of Karlstad, Box 9501, S-650 09 Karlstad, Sweden; Tel: +46 54 83 80 00; Fax: +46 54 83 36 91.

Linköping

Scandinavian Area Studies offers a semester of fulltime study with credit courses in Swedish language (oral and written) and three courses in Scandinavian history, politics, and literature. There is also a noncredit supplementary Swedish language course that emphasizes grammar and pronunciation.

Several semester courses are available in English that have been developed for the study abroad student. During 1993-1994 the courses offered were Sweden and the Swedes, The Swedish Model, Political Economy of Innovation, Environmental History, Stewardship and Management, Human Resources Development, and Scandinavian Management. A Swedish language course is also offered at the beginning of the fall semester in conjunction with the same courses. For more information on either of these two programs, contact: International Secretariat, University of Linköping, S-518 83 Linköping, Sweden; Tel: +46 13 281000; Fax: +46 13 282822.

Luleå

The Luleå University College and Institute of Technology offers many degree courses in English. The Institute of Technology offers courses in civil, electrical, environmental, mechanical, and mining engineering as well as computer science, materials science, mathematics, and physics. The School of Business offers primarily courses in marketing and economics; and the School of Music offers church music (organ). An intensive Swedish course is offered 2 weeks before the start of the fall semester. For more information, contact: International Office, University College of Luleå, S-971 87 Luleå, Sweden; Tel: +46 920 91600; Fax: +46 920 91263.

Lund

International Swedish University/ISU Programs at the Folk University, Lund. Both semester and 4-week Swedish language summer sessions are offered. The semester program requires at least sophomore standing and a grade point average of 2.67. The summer sessions are open to college and university students, and provide 8 semester hours of credit. Instruction is in English. For more information, contact: International Swedish University, Skomakaregatan 8, S-223 50 Lund, Sweden; Tel: +46 46 117 020; +Fax: 46 46 97 008. U.S. representative: International Swedish University Representative, 645 Lincoln Drive, Idaho Falls, ID 83401; Tel and Fax: (208) 523-1039.

Packaging in Sweden is a course offered at Lund University by Michigan State University and covers topics in economic and cultural differences in markets and packaging in Sweden, packaging systems, graphic design, corrugated board and design, and environmental considerations. It is open to college students from Michigan State and other institutions enrolled in packaging and related disciplines. For more information, contact: Office of Overseas Study, 108 International Center, Michigan State University, East Lansing, MI 48824-1035; Tel: (517) 353-8920; Fax: (517) 336-2082.

College Consortium for International Studies/CCIS offers a semester program at the University of Lund. Program includes courses in civilization/culture, ecology/environmental studies, education, history, international marketing, political science/politics, recreation, and rehabilitation, which are taught in English, and a course in Swedish language. It also includes excursions. The program is open to college students with a 2.75 grade point average. For information, contact: CCIS, 301 Oxford Valley Road, Ste 203B, Yardley, PA 19067; Tel: (215) 493-4224.

University of Lund offers a semester or year program in art history, business/management, drama/theater, ecology/environmental studies, economics, film studies, history, literature, political science/politics, and social welfare/services, all of which are taught in English, and a course in Swedish language. This program also includes excursions. The program requires at least junior standing with a 2.5 grade point average. For more information, contact: University of Lund, Skomakaregatan 8, S-223 50 Lund, Sweden; Tel: +46 46 117720 or the U.S. representative: Mrs. Joann Wallin, ISU, 645 Lincoln Drive, Idaho Falls, ID 83401; Tel: (208) 523-1039.

Mora

Gustavus Adolphus College offers a spring program at Mora Folkhögskola in dyeing, ecology/environmental studies, energy science, health sciences, political science/politics, spinning, textiles, and weaving, which are taught in English, and beginning, intermediate, or advanced Swedish language. The program requires at least sophomore standing with a 2.75 grade point average. For more information, contact: International Education, Gustavus Adolphus College, St. Peter, MN 56082; Tel: (507) 933-7545; Fax: (507) 933-7041.

Mullsjö

Philipps University offers a spring semester program in Mullsjö in history, humanities, and sociology, all in English, and a course in Swedish language. It requires at least sophomore standing. For more information, contact: Swedish Student Advisor, Phillips University, 1406 S. Hayes, Enid, OK 73703; Tel: (405) 237-4433.

Sigtuna

University of Wisconsin Eau Claire offers a semester or year program at Sigtuna Folkhögskola. The program includes courses in independent study, Scandinavian studies, and intermediate or advanced Swedish. For more information, contact: Center for International Education, University of Wisconsin, Scholfield Hall 111, Eau Claire, WI 54701; Tel: (715) 836-4411.

Stensund

Scandinavian Seminar offers a program in the spring semester at Stensund Högskola. The program consists of courses in English in ecology/environmental studies, engineering, marine science, Swedish studies, and water management, and a course in Swedish language. The program requires at least sophomore standing and 1 year of biology. For more information, contact: Scandinavian Seminar, 24 Dickinson St., Amherst, MA 01002; Tel: (800) 828-3343; Fax: (413) 253-5282.

Stockholm

International Graduate School/IGS, Stockholm University offers graduate study in social science leading to a Diploma (one-year course) or a Master of Social Science (one additional year for those who have the IGS Diploma). The program includes courses in English in international relations, political science/politics, social sciences, social welfare/services, and beginning, intermediate, or advanced Swedish language (see Appendix A on Stockholm University). For more information, contact the International Graduate School, Stockholm University, S-106 91 Stockholm, Sweden; Tel: +46 8 155508, or the Swedish Information Service, One Dag Hammarskjöld Plaza, New York, NY 10017-2201; Tel: (212) 751-5900; Fax: (212) 752-4789.

A semester or academic year program is offered at Stockholm University through Hamilton College. Course offerings are interdisciplinary and include democracy and women's organizations, international relations, public policy, European history, economics, the revolution in Eastern Europe, Scandinavian literature, film, and environmental law. The program requires at least sophomore standing. Instruction is in English and Swedish. Students take four courses each semester and receive a Stockholm University transcript specifying 4 semester hours of credit for each course. For more information, contact: Director, The Swedish Program, Hamilton College, Clinton, NY 13323; Tel: (315) 859-4404; Fax: (315) 859-4632.

Uppsala

American Summer Institute in Uppsala: a 3-week academic, residential study program for North American clergy and laity with an interest in new developments on the religious scene. The program focuses on the life of the church and society in East and West as reflected in the Baltic. Instruction is in English. For more information, contact: American Summer Institute, P.O. Box 40, Princeton Junction, NJ 08550; Tel: (609) 799-5349; Fax: (609) 799-7459.

Study Abroad at Uppsala University through the University of Miami: a 1-semester or full academic year, as well as two 4-week sessions, are offered for college students with a minimum grade point average of 3.0. Courses in the history of

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modern Sweden, modern Swedish social institutions, Swedish art and folk, and intensive Swedish are offered. Credit for the program consists of 12-18 credits for undergraduates or 9-12 graduate credits per semester for the academic year program. Six credits are offered for each summer session. For more information, contact: University of Miami Office of International Programs, P.O. Box 248072, Coral Gables, FL 33124-3300; Tel: (800) 831-1390; Fax: (305) 284-6629.

The Uppsala Summer Program in Comparative Legal Studies is sponsored jointly by the University of Minnesota Law program and the Faculty of Law at the University of Uppsala. The courses are 5 weeks in duration. Four courses are offered to provide a broad overview of European law and a focused examination of specific areas of comparative law. The program is open to students who have completed at least 1 year in an accredited law school program and also to law school graduates. The instruction is in English. For more information, contact the Coordinator, International Programs, Room 381 Law Center, University of Minnesota, Minneapolis, MN 55455; Tel: (612) 625-4544; Fax: (612) 625-2019.

University of Uppsala, International Summer Session, offers 2- to 8-week courses open to students from other countries who are at least 18 and have completed secondary school. The program offers instruction in Swedish language, and in Swedish cultural, political, and social life. One credit per week is offered. For more information, contact the University of Uppsala International Summer Session, Box 513, S-751 20 Uppsala, Sweden; Tel: +46 18 55 22 88.

The University of Uppsala also offers a spring semester program in English in accounting, East European studies, economics, marketing, organizational behavior, and a course in beginning Swedish. For more information, contact the University of Uppsala, Box 513, S-751 20 Uppsala, Sweden; Tel: +46 18 55 22 88.

Gustavus Adolphus College Exchange Programs offers several semester and academic year programs in conjunction with the University of Uppsala and Mora Folkhögskola. These programs are open to students of Swedish who have at least a 3.3 grade point average. However, the academic year course is open only to students with junior standing. This course includes topics in Swedish language and culture, as well as current politics. The instruction is in Swedish or English. For more information, contact the Office of International Education, Gustavus Adolphus College, St. Peter, MN 56082; Tel: (507) 933-7545; Fax: (507) 933-7041.

Växjö

The University of Wisconsin Eau Claire offers a program at the University College of Växjö in international economics, comparative politics, international teacher training, computer science, and mathematics. Admission requires at least junior standing with a grade point average of 2.8 and fluency in Swedish to enroll for 1 or 2 semesters as regular students. Those without knowledge of Swedish may enroll for 1 semester in one of the programs taught in English. For more information, contact the Center for International Education, Schofield 111, University of Wisconsin, Eau Claire, WI 54702-4004; Tel: (715) 836-4411; Fax: (715) 836-4948.

A 10-week spring quarter program in Swedish language, culture, and exploration of the roots of Swedish emigration is offered through the University of Minnesota, Duluth. A special course in the Swedish educational system is offered for education majors. Admission requires at least sophomore standing and a 2.4 grade point average. Instruction is in English. For more information, contact: International Education Office, University of Minnesota, 108 Cina Hall, 10 University Drive, Duluth, MN 55812-2496; Tel: (218) 726-8229; Fax: (218) 726-6386.

Gustavus Adolphus College offers a program at the University College of Växjö in international business, political science/politics, and social sciences. Admission requires at least junior standing and a 2.75 grade point average. For more information, contact the Office of International Education, Gustavus Adolphus College, St. Peter, MN 56082; Tel: (507) 933-7545; Fax: (507) 933-7041.

The University College of Växjö offers a spring semester program in English in intercultural studies and a course in beginning Swedish. The program requires sophomore standing. For more information, contact the International Secretariat, University College of Växjö, S-351 95 Växjö, Sweden; Tel: +46 470 685 00; Fax: +46 470 832 17.

General Courses in Swedish Language and Culture

The Swedish Institute International Summer Courses: The Swedish Institute, in cooperation with the University of Stockholm and Swedish folk high schools, offers summer courses in Swedish language training and studies of Swedish literature, culture, and society. Instruction is in Swedish. For more information, contact the Course Director, The Swedish Institute, Box 7434, S-103 91 Stockholm, Sweden; Tel: +46 8 789 20 00; Fax: +46 8 20 72 48.

Michigan State University program on Social Science in Scandinavia: Summer course takes place for 15 days in Helsinki and 3 weeks in Stockholm and is open to any college student. Information: Office of Overseas Study, 108 International Center, Michigan State University, East Lansing, MI 44824-1035; Tel: (517) 353-8920; Fax: (517) 336-2082.

Courses in Handicraft

Capellagården Foundation and School of Handicraft offers 2-year courses in woodwork, textiles, or ceramics and 1- to 3-week summer courses in woodwork, textiles, pottery, and aquarelle painting. The 2-year course is open to those 17 years of age or older, with preference given to those with related vocational experience. The summer course is open to teachers, school administrators, and others concerned with handicrafts. A half-year course is also offered in organic horticulture. In the 2-year course and the half-year horticulture course, instruction is in Swedish. In the summer course, instruction is in Swedish and English. For more information, contact: Stiftelsen Capellagården, Vickleby, S-386 00 Färjestaden, Sweden; Tel: +46 485 361 32.

The *Sätergläntan* Crafts Center offers courses in Swedish handicrafts (weaving, dyeing, textile design, spinning, and woodworking). One-week to 1-semester courses are open to students, 16 years or older. For some programs, a basic background in weaving is required. The instruction is in Swedish. For more information, contact Sätergläntan Hemslijödens Gård, Box 87, S-780 30, Insjön, Sweden; Tel: +46 147 410 45; Fax: +46 247 408 30.

Chapter 9

Guidelines for Admissions Officers

General Advice

The process of reviewing Swedish academic credentials with the aid of this volume and the Council approved recommendations at the end of this chapter is complicated by the many major reforms the educational system has undergone. In attempting to evaluate these credentials, the following points should be considered:

An initial step is to determine the reform under which the degree was awarded and the number of points required for the degree, as indicated on the diploma. This information is necessary in order to determine the level of the program.

The *Högskoleexamen* may be awarded for many types of programs. If the degree was awarded under the Reform of 1977, determine the number of points awarded, what was required to gain entrance to the program, and what types of diplomas had already been received. This degree was received upon completion of a course or program that was either vocational or academic at the undergraduate or advanced level. If the degree was awarded under the Reform of 1993, there is only one type of degree.

The number of years required to complete a program was based on the ratio of 40 points being equal to 1 year of fulltime study. The length of study will more likely be longer than the points indicate. A 160-point program might take longer to complete than the calculated 4 years.

The diploma usually includes an official English translation of the degree title that has been determined by the government. The English translations of all degrees form a hierarchy within the Swedish system. For example, a Certificate and the Bachelor's and Master's degrees show three levels of education within the Swedish system.

With the Reform of 1977, institutions followed a national curriculum. A program offered at one institution was considered equivalent to the same program offered at any other institution. With the Reform of 1993, institutions are allowed more flexibility in structuring their programs, deciding on funding priorities, and determining the admission standards.

Official transcripts with English translations are available at most institutions. Computerized transcripts, which are considered unofficial, show a breakdown of the courses into subcourses, listing the credit and grade for each. These are available from many institutions.

Many courses are graded pass/fail with the failure never being recorded. Students may retake an exam until it is passed or they are dropped. The computerized transcript will indicate the date each subcourse was passed. A grade of "Pass with distinction" may be given but is reserved for the top 10-15% of students.

Admission to licentiate and doctoral programs is based on recommendations of faculty members and the advisor. Students normally attend graduate school at the same institution as their first university degree. Graduate schools outside Sweden that base admission on a grade point average will have a problem with many students whose grades are mainly "Pass" as the only grade given. Other indicators of performance should be used.

Evaluation of Foreign Educational Credentials

The National Council on the Evaluation of Foreign Educational Credentials (the Council) is an interassociational group that provides guidelines for interpreting foreign educational credentials for the placement of holders of these credentials in U.S. educational institutions. Its main purpose is to review, modify, and approve placement recommendations drafted for publications used by the U.S. admissions community. The Council also helps establish priorities, research guidelines, and review procedure for international admissions publications. The Council participates in international meetings that involve foreign educational credentials for the purpose of international exchanges of students and scholars. The membership of the Council reflects the diversity of U.S. educational institutions for which recommendations are made (see page 166 for a listing of Council member organizations and their representatives).

The placement recommendations approved by the Council identify the level or stage of education represented by an educational credential and thus the appropriate placement of the holder of the credential in U.S. educational institutions. Council recommendations are not directives, nor do they make judgments about the quality of programs and schools. Quality indicators may be provided by the author in the text. The effective use of placement recommendations depends on careful review of the supporting text in the publication and consideration of individual institutional placement policies and practices.

The Council suggests that institutions apply the same standards in evaluating a foreign applicant as in evaluating a U.S. applicant with a similar educational background. Recommendations reflect U.S. philosophy and structure of education and may differ from the practices of the educational system being reviewed.

Guide to the Understanding of Placement Recommendations

Secondary

May be placed in grade ...

This recommendation is used if freshman admission cannot be recommended, but specific secondary school placement is suggested by the total years of primary and secondary school studies represented by the credential.

May be placed in grade 10 or 11, depending on coursework completed in the tenth-year program.

This recommendation warns the evaluator that the tenth-year program represented by this credential is either at the level of ninth or tenth grade. A review of the syllabus will assist in determining appropriate placement.

Primarily a vocational qualification.

This statement is used for credentials awarded for secondary nonacademic training programs in specific job-related fields (e.g., apprenticeships). Admission does not usually require a specific background. The credentials do not give access to higher education.

May be considered for freshman admission if a vocational (technical, specialized) program is appropriate preparation.

This recommendation suggests the specialized nature of the curriculum followed. The wording further suggests that within the foreign educational system the educational opportunities open to holders of the credential in question may be limited to some postsecondary, usually nonuniversity, options.

May be considered for freshman admission.

This recommendation is for graduates of academic, university-preparatory secondary school programs and other programs that can be considered for freshman admission without reservations or qualifiers.

May be considered for freshman admission; may receive advanced placement or transfer credit based on AP, CLEP, or equivalent U.S. examination.

This recommendation suggests that any advanced placement or transfer credit awarded for the credential should be validated by nationally standardized examinations for which U.S. institutions have already established policies.

Admission and placement should be based on other credentials.

This recommendation suggests that U.S. evaluators base their admissions decisions on secondary credentials earned in the country of origin.

Undergraduate

Primarily a vocational qualification; admission and placement should be based on other credentials.

This recommendation is used for credentials awarded for postsecondary nonacademic training programs in specific job-related fields. The credential does not give access to further study in the home country; admissions decisions should be based on other credentials.

A professional qualification; admission and placement should be based on other credentials.

This recommendation is used for specific studies in professional fields. The credential, by itself, does not give access to further study in the home country; admissions decisions should be based on other credentials.

May be considered for undergraduate admission with up to ... year(s) of transfer credit, determined through a course-by-course analysis.

This recommendation sets the maximum amount of credit, depending on the length of study, for a university program. The phrasing "course-by-course analysis" asks the evaluator to look carefully at course contents, such as course descriptions from catalogues, in order to determine the appropriateness of transfer credit.

May be considered for undergraduate admission with up to ... year(s) of transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.

This recommendation asks the evaluator to look very closely at the course contents because of the specialized nature of this nonuniversity program. Given this precautionary statement, the evaluator should try to obtain additional information about the program: e.g., course content, program requirements, time allocated for practical training, and profile of the school attended.

May be considered for undergraduate admission with transfer credit awarded on the same basis as for students of ... (U.S. hospital schools of nursing, U.S. schools of art, U.S. seminaries, U.S. schools of music and performing arts, U.S. schools of music).

This recommendation can be used for hospital-based nursing; art schools; music or performing arts schools; and seminaries that are comparable to these categories of schools in the U.S. for which specific admissions policies are used.

Represents completion of undergraduate teacher education courses.

By utilizing this statement, the Council is providing descriptive information only, not a placement recommendation. Evaluators should follow the practice employed at their institutions for similar undergraduate teacher education courses.

Represents the completion of a specialization in ... (e.g., military science, nursing, graphic arts, the field).

By utilizing this statement, the Council is providing descriptive information only, not a placement recommendation. Evaluators should follow the practice employed at their institutions for similar undergraduate study.

Graduate or Advanced Professional Admission

May be considered for graduate admission.

This recommendation is used if the program of study is considered to provide adequate preparation for graduate study, without reservation or qualifiers. Normally such a program represents a total of 16 years of education and gives access to graduate education within the foreign system. This recommendation may be used for programs requiring more than 16 years of study if no graduate transfer credit is recommended.

May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.

This recommendation is used for programs that are generally comparable to U.S. bachelor's degrees but the curriculum is specialized in nature and provides limited or no access to more advanced study in the home country.

May be considered for graduate transfer credit (determined through a course-by-course analysis).

In this recommendation, the phrasing "course-by-course analysis" asks the evaluator to look carefully at course contents, such as course descriptions from catalogues, to determine the appropriateness of graduate transfer credit.

May be considered for graduate admission as are graduates of ... (U.S. schools of art, U.S. schools of music).

This recommendation is used for art and music credentials that are awarded for the completion of programs of sufficient intensity to be considered comparable to what is required for the completion of a degree program at an American art or music school. The evaluator is directed to look at the credentials in terms of institutional policy for the admission of graduates from analogous schools in the U.S.

May be considered comparable to a U.S. master's degree.

This recommendation is used if the program of study is considered comparable to that of a U.S. master's program. This recommendation is usually not used for first degrees that may represent a level of academic attainment comparable to that of a master's degree but that are different in program structure.

May be considered for admission to a doctoral program, with transfer credit determined through a course-by-course analysis.

This recommendation is used for credentials that may lead to admission into graduate study, including doctoral programs. It does not preclude admission into master's or other postbaccalaureate study.

May be considered comparable to an earned U.S. doctorate.

This recommendation is used if the program of study is considered comparable to a U.S. doctoral program. There may be differences in the structure and requirements of the program, but the credential represents advanced research and dissertation work of a sufficiently high level to recommend doctoral comparability.

Represents recognition of published postdoctoral scholarly research.

This statement is used if the holder of the credential has completed scholarly research that has been published as a condition of the credential. In some cases such as the German *Habilitation* and the French *Habilitation a diriger des recherches,* the credential is an entitlement to the highest university positions.

A first professional degree-in ... (medicine, dentistry, veterinary medicine, pharmacy, law, architecture). May be considered for graduate admission.

This statement is used to point out the first professional degrees awarded in a particular field. No graduate transfer credit is awarded. While preparation for the profession occurs at the graduate level in the U.S., it occurs at the undergraduate level in many foreign educational systems.

Represents the completion of a specialization in ... (medicine, dentistry, psychotherapy, veterinary medicine).

This statement is used for credentials awarded for completion of a medical or dental specialization, following the first professional degree in the field.

Represents advanced graduate achievement in the field of specialization.

This statement is used for credentials that represent advanced, specialized studies that do not yield academic credit.

Placement Recommendations

Note: English translations of Swedish credential names are the official government versions, not those of the Council or author.

Name of Credential	Entrance Requirement	Length of Study	Gives Access in Sweden to	Placement Recommendation
Compulsory Education				
1. *Avgångsbetyg* from *grundskola* (Leaving certificate from compulsory school) (p. 6)	Age 6 or 7	9 years	Upper secondary school	May be placed in grade 10.
Upper Secondary Education				
2. *Avgångsbetyg* from *gymnasieskola* (Leaving certificate from upper secondary school [awarded under 1970 law]) from: (p. 8, 13)				
a. 2-year lines	*Avgångsbetyg* from *grundskola*	2 years	Employment or tertiary-level programs in related fields	May be considered for freshman admission if a vocational or specialized program is appropriate preparation.
b. 3-year lines or third year of technology line	*Avgångsbetyg* from *grundskola*	3 years	University matriculation	May be considered for freshman admission; may receive advanced placement or transfer credit based on AP, CLEP, or equivalent U.S. institutional examination.
c. 4-year technology line	*Avgångsbetyg* from *grundskola*	4 years	University matriculation	May be considered for freshman admission with possible transfer credit for the fourth year determined through a course-by-course analysis.
3. *Avgångsbetyg* from *gymnasieskola* (Leaving certificate from upper secondary school [awarded under 1992 law]) (p. 8, 19)	*Avgångsbetyg* from *grundskola*	3 years	Tertiary education	May be considered for freshman admission; may receive advanced placement or transfer credit based on AP, CLEP, or equivalent U.S. institutional examination.
4. *Avgångsbetyg* from *Komvux* (Leaving certificate from *Komvux*) in: (p. 19)				
a. Vocational studies	*Avgångsbetyg* from *grundskola*	Variable	Tertiary education	May be considered for freshman admission if a vocational program is appropriate preparation.

b. General studies	*Avgångsbetyg* from *grundskola*	Variable	Tertiary education	May be considered for freshman admission; may receive advanced placement or transfer credit based on AP, CLEP, or equivalent U.S. examination.
5a. *Intyg om särskild behörighet* (Certificate of course completion) from *Folkhögskola* (Folk High School) (p. 96)	*Avgångsbetyg* from *grundskola* and age 18	Variable	Further education	Admission and placement should be based on other credentials.
5b. *Intyg om allmän behörighet* from *folkhögskola* (Certificate of general program) (p. 96)	*Avgångsbetyg* from *grundskola* and age 18	Variable	Tertiary education	May be considered for freshman admission if a specialized program is appropriate preparation.

University and College Credentials

Note: "University matriculation" means that the requirements for entry into a university have been satisfied at the upper secondary level (see Chapter 5).

Name of Credential under 1977 Law	Name of Credential under 1993 Law	Entrance Requirement	Length of Study	Gives Access in Sweden to	Placement Recommendation
General					
6. *Utbildningsbevis* or *Bevis* (Certificate) (p. 29-30)	*Utbildningsbevis* or *Bevis* (Certificate)	University matriculation	Variable	Further tertiary education	May be considered for undergraduate transfer credit determined through a course-by-course analysis.
7. *Högskoleexamen i/på (field)* (University Certificate in [field]) (p. 29-30)	Not offered	University matriculation	1 or 2 years (40 or 80 points)	Further tertiary education	May be considered for undergraduate transfer credit determined through a course-by-course analysis.
8. *Högskoleexamen i/avseende grundläggande (field)* (University Certificate in [field]) (p. 30)	*Högskoleexamen i/på (field)* (Diploma in [field])	University matriculation	2 years (80 points)	Further tertiary education	May be considered for undergraduate admission with up to 2 years of transfer credit determined through a course-by-course analysis.
9. *Högskoleexamen på Enstaka Kurser* (Bachelor of [field] taken by single subject) (p. 30)	*Kandidatexamen* (Bachelor of [field])	University matriculation	3 years (120 points)	Doctoral studies	May be considered for graduate admission.

Name of Credential under 1977 Law	Name of Credential under 1993 Law	Entrance Requirement	Length of Study	Gives Access in Sweden to	Placement Recommendation
10. *Filosofie Kandidatexamen* (Bachelor of [field]) (p. 30)	*Kandidatexamen* (Bachelor of [field])	University matriculation	3 or 3.5 years (120 or 140 points)	Doctoral studies	May be considered for graduate admission.
11. *Högskoleexamen i/på (field)* (Bachelor of [field]) (p. 30)	*Kandidatexamen* (Bachelor of [field])	University matriculation	3 or 3.5 years (120 or 140 points)	Doctoral studies	May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.
12 a. *Filosofie Kandidatexamen, Högskoleexamen i/på (field)* (Master of [field]) (p. 30)	*Magisterexamen* (Master of [field])	University matriculation	4 years (160 points)	Doctoral studies	May be considered for admission to a doctoral program.
b. not offered	*Magisterexamen* (Master of [field])	3- or 3.5-year degree or equivalent	1 year (40 points)		
13. *Högskoleexamen på påbyggnadslinjen (field)* (Diploma in [field]) (p. 30)	Not offered	3- or 3.5-year degree or equivalent	.5 or 1 year (20 or 40 points, for a total of 160 points)	Employment	Represents graduate achievement in the field of specialization.
14. Master of Arts or Science in [field] (p. 31)	Master of Arts or Science in [field]	Non-Swedish matriculation or degree	1.5 years (60 points)	Doctoral studies	May be considered for admission to a doctoral program.
15. *Licentiatexamen* (Licentiate in [field]) (p. 28, 31)	*Licentiatexamen* (Licentiate in [field])	A university degree in related field	2 years (80 points)	Further doctoral studies	May be considered for admission to a doctoral program with transfer credit determined through a course-by-course analysis.
16. *Doktorsexamen* (Doctor of [field]) (p. 28, 31)	*Doktorsexamen* (Doctor of [field])	A university degree in related field	4 years (160 points, or 80 points beyond the *Licentiatexamen*)	Employment	May be considered comparable to an earned U.S. doctorate.

Agriculture

17. *Djursjukvårdarexamen* (University Certificate in Veterinary Nursing) (p. 50)	*Utbildningsbevis* (Certificate [Veterinary Nursing])	University matriculation from related 2- or 3-year line plus 2 years of experience in field	1 year (40 points)	Employment	Primarily a vocational qualification.
18. *Trädgårdsteknikerexamen* (University Certificate in Park and Market Garden Management) (p. 49-50)	Not offered	University matriculation in related 2-year line plus 6 mos. experience in field	1 year (40 points)	Employment	Primarily a vocational qualification.
19. Not offered	*Trädgårdsingenjörsexamen* (University Diploma in Horticultural Management) (p. 49-50)	University matriculation from land and animal husbandry line or horticultural line plus 18 months' work experience or equivalent	2 years (80 points)	Further tertiary education, employment	May be considered for undergraduate admission with up to 2 years of transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
20. *Skogsteknikerexamen* (University Certificate in Forest Studies) (p. 49)	*Skogsteknikerexamen* (University Diploma in Forest Management)	University matriculation from land and animal husbandry line	2 years (80 points)	Further tertiary education, employment	May be considered for undergraduate admission with up to 2 years of transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
21. *Skogsmästarexamen* (University Certificate in Forest Management) (p. 49)	*Skogsmästarexamen* (University Diploma in Forest Engineering)	*Skogsteknikerexamen*	1 year (40 points)	Further tertiary education, employment	May be considered for up to 1 year of undergraduate transfer credit determined through a course-by-course analysis.

Name of Credential under 1977 Law	Name of Credential under 1993 Law	Entrance Requirement	Length of Study	Gives Access in Sweden to	Placement Recommendation
22. *Lantmästarexamen* (University Certificate in Farm Management) (p. 49)	*Lantmästarexamen* (University Diploma in Agricultural and Rural Management)	University matriculation from land and animal husbandry line	Since 1993, 2 years (80 points), previously 1 year (40 points)	Further tertiary education, employment	May be considered for undergraduate admission with transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
23. Not offered	*Landskapsingenjörsexamen* (University Diploma in Landscape Construction and Management) (p. 49)	University matriculation	2 years (80 points)	Further tertiary education, employment	May be considered for undergraduate admission with up to 2 years of transfer credit determined through a course-by-course analysis.
24. *Agronomexamen* (Master of Science in Agriculture) (p. 42-43)	*Agronomexamen* (University Diploma in Agriculture)	University matriculation	4.5 to 5 years (180 to 200 points)	Doctoral studies	May be considered for admission to a doctoral program.
25. *Hortonomexamen* (Master of Science in Horticulture) (p. 46)	*Hortonomexamen* (University Diploma in Horticulture)	University matriculation	4.5 to 5 years (180 to 200 points)	Doctoral studies	May be considered for admission to a doctoral program.
26. *Jägmästarexamen* (Master of Science in Forestry) (p. 44-45)	*Jägmästarexamen* (University Diploma in Forestry)	University matriculation	5 years (200 points)	Doctoral studies	May be considered for admission to a doctoral program.
27. *Landskapsarkitektexamen* (Master of Science in Landscape Architecture) (p. 46, 47)	*Landskapsarkitektexamen* (University Diploma in Landscape Architecture)	University matriculation	5 years (200 points)	Doctoral studies	May be considered for admission to a doctoral program.
28. *Veterinärexamen* (Master of Science in Veterinary Medicine) (p. 47)	*Veterinärexamen* (University Diploma in Veterinary Medicine/ DVM)	University matriculation	5.5 years (220 points)	License from National Board of Agriculture, doctoral studies	A first professional degree in veterinary medicine; may be considered for graduate admission.
Architecture					
29. *Arkitektexamen* (Master of Architecture) (p. 50, 51)	*Arkitektexamen* (University Diploma or Master of Science in Architecture)	University matriculation	4 to 4.5 yrs. (160 to 180 points)	Doctoral studies	A first professional degree in architecture; may be considered for graduate admission.

Art and Applied Art					
30. *Högskoleexamen i/på (field)* (University Certificate in [field]) (p. 51-52)	*Utbildningsbevis* (Certificate)	Portfolio or work experience	1 year (40 points)	Employment	Primarily a vocational qualification.
31. *Högskoleexamen i/på (field)* (University Certificate in [field]) (p. 51-52)	*Konstnärlig Högskoleexamen i Konst och Design i/på (field)* (University Diploma in Fine Arts and Design in [field])	University matriculation and portfolio or work experience	2 years (80 points)	Employment	May be considered for undergraduate admission with up to 2 years of transfer credit determined through a course-by-course analysis.
32 *Högskoleexamen i/på (field)* (Bachelor of Arts in [field]) (p. 51-52)	*Konstnärlig Högskoleexamen i Konst och Design i/på (field)* (University Diploma in Fine Arts and Design in [field])	University matriculation and portfolio or work experience	3 years (120 points)	Employment	May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.
33. *Högskoleexamen i/på (field)* (Master of Fine Arts in [field]) (p. 51-52)	*Konstnärlig Högskoleexamen i Konst och Design i/på (field)* (University Diploma in Fine Arts and Design in [field])	University matriculation and portfolio or work experience	4.5 or 5 years (170 or 200 points)	Employment	May be considered for graduate admission as are graduates of U.S. schools of art.
Business Administration and Related Fields		*(For business-related studies in Hotel and Restaurant fields, see separate section below.)*			
34. *Ekonomexamen* (Bachelor of Science in Business Administration and Economics) (p. 55)	*Ekonomie Kandidatexamen* (Bachelor of Science in Business Administration and Economics)	University matriculation	3 or 3.5 years (120 or 140 points)	Doctoral studies	May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.
35. *Förvaltningsexamen* (Bachelor of Science in Public Administration) (p. 53)	*Politices Kandidatexamen* (Bachelor of Public Administration)	University matriculation	3 or 3.5 years (120 or 140 points)	Doctoral studies	May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.

Name of Credential under 1977 Law	Name of Credential under 1993 Law	Entrance Requirement	Length of Study	Gives Access in Sweden to	Placement Recommendation
36. *Ekonomexamen* or *Civilekonomexamen* (Master of Science in Business Administration and Economics) (p. 55)	*Ekonomie Magisterexamen* or *Civilekonomexamen* (Master of Business Administration and Economics)	University matriculation	4 years (160 points)	Doctoral studies	May be considered for admission to a doctoral program.
37. *Förvaltningsexamen* (Master of Science in Public Administration) (p. 53)	*Politices Magisterexamen* (Master of Public Administration)	University matriculation	4 years (160 points)	Doctoral studies	May be considered for admission to a doctoral program.
38. *Högskoleexamen på Påbyggnadslinjen (field)* (Postgraduate Diploma in [field]) (p. 53, 55-56)	Not offered	3-year university degree	1.5 or 2 years (60 or 80 points)	Doctoral studies	May be considered for admission to a doctoral program.
39. *Internationell Ekonomexamen* (Master of Science in Business Administration and Economics-International Business Program) (p.55)	*Ekonomie Magisterexamen med Internationell Inriktning* (Master of Business Administration and Economics-International Business Program)	University matriculation	4 years (160 points)	Doctoral studies	May be considered for admission to a doctoral program.
Dance					
40. *Utbildningsbevis* (Certificate) (p. 56, 57)	*Utbildningsbevis* (Certificate)	Audition	1 year (40 points)	Employment	May be considered for undergraduate admission with transfer credit awarded on the same basis as for students of U.S. schools of performing arts.
41. *Högskoleexamen på (field)* (University Certificate in [field]) (p. 56, 57)	*Konstnärlig Högskoleexamen i Dans* (University Diploma in Dance)	Audition	2 or 3 years (80 or 120 points)	Employment	May be considered for undergraduate admission with transfer credit awarded on the same basis as for students of U.S. schools of performing arts.
42. *Högskoleexamen i Dans* (Bachelor of Fine Arts in Dance Ed./Choreography) (p. 56, 57)	*Konstnärlig Högskoleexamen i Dans* (University Diploma in Dance)	Audition	3 years (120 points)	Employment	May be considered for undergraduate admission with transfer credit awarded on the same basis as for students of U.S. schools of performing arts.

Dramatic Arts, Opera, and Theater					
43. *Utbildningsbevis* (Certificate) (p. 57-58)	*Utbildningsbevis* (Certificate)	Audition	1 or 1.5 years (40 or 60 points)	Employment	May be considered for undergraduate admission with transfer credit awarded on the same basis as for students of U.S. schools of performing arts.
44. *Högskoleexamen i/på (field)* (University Certificate in [field]) (p. 57)	*Konstnärlig Högskoleexamen i Scen och Medier* (University Diploma in Performing Arts and Media)	University matriculation and audition	2 or 3 years (80 or 120 points)	Employment	May be considered for undergraduate admission with transfer credit awarded on the same basis as for students of U.S. schools of performing arts.
45. *Högskoleexamen på (field)* (Bachelor of Fine Arts in [field]) (p. 57)	*Konstnärlig Högskoleexamen i Scen och Medier* (University Diploma in Performing Arts and Media) (p. 57)	Audition	3 or 3.5 years (120 or 140 points)	Employment	May be considered for graduate admission as are graduates of U.S. schools of performing arts.
Engineering					
46. *Utbildningsbevis* from *Tekniskt Basår* (Certificate from Basic Technical Program) (p. 59)	*Utbildningsbevis* from *Tekniskt Basår* (Certificate from Basic Technical Program)	University matriculation from non-technical/ natural science line	1.5 years (no points)	Engineering or science tertiary programs	May be considered for freshman admission.
47. *Högskoleexamen i/på (field)* (University Certificate in [field]), referred to as *Yrkesteknisk Högskoleexamen/YTH* (p. 65)	*Yrkesteknisk Högskoleexamen* (University Diploma in Applied [field])	University matriculation from related 2- or 3-yr. line or 4 years of experience in field	1.5 years (60 points)	Employment	Primarily a vocational qualification.

Name of Credential under 1977 Law	Name of Credential under 1993 Law	Entrance Requirement	Length of Study	Gives Access in Sweden to	Placement Recommendation
48. *Ingenjörsexamen på (field)* (University Certificate in [field]) (p. 63)	*Ingenjörsexamen på (field)* (University Diploma in Engineering/Lower Level)	University matriculation from technical or natural science line	2 or 3 years (80 or 120 points)	Further tertiary education	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis.
49. *Driftteknikerexamen* (University Certificate in Control and Maintenance) (p. 63)	*Högskoleexamen på Driftteknik* (Diploma in Control and Maintenance)	University matriculation from related 2- or 3-year line	2 or 3 years (80 or 120 points)	*Driftingenjör* studies, employment	May be considered for undergraduate admission with transfer credit determined through a course-by-course analysis.
50. *Brandingenjörsexamen* (University Certificate in Fire Protection Engineering) (p. 63)	*Brandingenjörsexamen* (University Diploma in Fire Protection Engineering)	University matriculation	2.5 years (100 points)	Employment	May be considered for undergraduate admission with up to 2.5 years of transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
51. *Driftingenjörsexamen* (Bachelor of Science in Control and Maintenance) (p. 63)	*Ingenjörsexamen på Driftingenjörslinjen* (University Diploma in Engineering/Lower Level in Control and Maintenance)	*Driftteknikerexamen*	2 or 3 years (80 or 120 points)	Employment	May be considered for graduate admission.
52. *Maskinteknikerexamen* (University Certificate in Marine Engineering) (p. 64)	*Maskinteknikerexamen* (University Diploma in Marine Engineering/Lower Level)	University matriculation from related 2- or 3-year line	2 or 3 years (80 or 120 points)	*Sjöingenjör* studies or employment	May be considered for undergraduate admission with transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
53. *Sjöingenjörsexamen* (Bachelor of Science in Marine Engineering) (p. 64)	*Sjöingenjörsexamen* (University Diploma in Marine Engineering)	a. *Maskinteknikerexamen* or equivalent b. University matriculation	a. 1 year (40 points) b. 3 years (120 points)	Further tertiary education, employment	May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.

54. *Styrmansexamen* (University Certificate in Nautical Science) (p. 64)	*Styrmansexamen* (University Diploma in Nautical Science/Mate Level)	University matriculation from related 2- or 3-year line	2 years (80 points)	*Sjökapten* studies or employment	May be considered for undergraduate admission with transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
55. *Sjökaptensexamen* (Bachelor of Science in Nautical Science) (p. 64)	*Sjökaptensexamen* (University Diploma in Nautical Science/ Master Level)	a. *Styrmans-examen* b. University matriculation	a. 1 year (40 points) b. 3 years (120 points)	Further tertiary education, employment	May be considered for graduate admission in a related field if the specialized nature of the program followed is appropriate preparation.
56. *Civilingenjörsexamen på (field)* (Master of Science in Engineering in [field]) (p. 62)	*Civilingenjörsexamen* (University Diploma or Master of Science in Engineering)	University matriculation	4.5 years (180 points), formerly 4 years (160 points)	Doctoral studies	May be considered for admission to a doctoral program.
57. *Bergsingenjörsexamen* (Master of Science in Geotechnology) (p. 62)	Not offered	University matriculation	4.5 years (180 points), formerly 4 years (160 points)	Doctoral studies	May be considered for admission to a doctoral program.
Hotel and Restaurant					
58. *Högskoleexamen på Linjen för Kost och Näringsekonomi* (University Certificate in Food Science and Economics) (p. 66)	Not offered	University matriculation	2.5 years (100 points)	Further tertiary education	May be considered for undergraduate admission with up to 2.5 years of transfer credit determined through a course-by-course analysis.
59. *Dietistexamen* (Bachelor of Science in Dietetics) (p. 65-66)	*Kandidatexamen i Hushållsvetenskap (Dietist/Kostekonom)* (Bachelor of Home Economics [Dietetics])	University matriculation	3 years (120 points)	Further tertiary education, employment	May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.

Name of Credential under 1977 Law	Name of Credential under 1993 Law	Entrance Requirement	Length of Study	Gives Access in Sweden to	Placement Recommendation
60. *Kostekonomexamen* (Bachelor of Science in Catering) (p. 66)	*Kandidatexamen i Hushållsvetenskap [Kostekonom)]* (Bachelor of Home Economics [Catering])	University matriculation	3 years (120 points)	Further tertiary education, employment	May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.
Law					
61. *Juris Kandidatexamen* or *Juristexamen* (Master of Laws [LLM]) (p. 68)	*Juris Kandidatexamen* (University Diploma in Laws)	University matriculation	4.5 years (180 points)	Doctoral studies	A first professional degree in law; may be considered for graduate admission.
Medical Fields					
62. *Läkarexamen* (University Medical Degree/UMD) (p. 70)	*Läkarexamen* (University Diploma in Medicine)	University matriculation	5.5 years (220 points)	Doctoral studies	A first professional degree in medicine; may be considered for graduate admission.
63. *Tandläkarexamen* (University Dental Degree) (p. 69)	*Tandläkarexamen* (University Diploma in Dentistry)	University matriculation	4.5 years (180 points)	Doctoral studies	A first professional degree in dentistry; may be considered for graduate admission.
64. *Apotekarexamen* (Master of Science in Pharmacy) (p. 71)	*Apotekarexamen* (University Diploma in Pharmacy)	University matriculation	5 years (200 points), formerly 4 years (160 points)	Doctoral studies	A first professional degree in pharmacy; may be considered for graduate admission.
65. *Logopedexamen* (Bachelor of Science in Speech Pathology and Therapy) (p. 72)	*Logopedexamen* (University Diploma in Speech Pathology and Therapy)	University matriculation	a. Until 1985, 3 or 3.5 years (120 or 140 points) b. Since 1985, 4 years (160 points)	a. Doctoral studies, employment b. Doctoral studies	a. May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation. b. May be considered for admission to a doctoral program.
66. *Toxikologexamen* (Master of Science in Toxicology) (p. 72)	*Magisterexamen* (Master of [field])	120-point university degree	1.5 years (60 points)	Doctoral studies	May be considered for graduate transfer credit.

67. *Psykoterapeutexamen* (University Diploma in Psychotherapy) (p. 71)	*Psykoterapeutexamen* (University Diploma in Psychotherapy)	University degree in related field, e.g., medicine or psychology	3 years part-time (60 points)	Specialist competence in field	Represents the completion of a specialization in psychotherapy.
68. *Tandhygienistexamen* (University Certificate in Dental Hygiene) (p. 73)	*Tandhygienistexamen* (University Diploma in Dental Hygiene)	University matriculation	2 years (80 points); formerly 1 year (40 points)	Employment	May be considered for undergraduate admission with up to 2 years of transfer credit determined through course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
69.*Sjuksköterskeexamen* (University Certificate in Nursing) (p. 74)	*Sjuksköterskeexamen* (University Diploma in Nursing)	University matriculation	3 years (120 points), formerly 2 or 2.5 years (80/100 points)	Employment and further tertiary education	May be considered for undergraduate admission with transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
70. *Högskoleexamen på (health-related field)* (University Certificate in [health-related field]) (p. 73-75)	*Högskoleexamen på (health-related field)* (Diploma in [health-related field])	Degree in health-related field	Variable	Employment	May be considered for undergraduate transfer credit determined through course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
71. *Barnmorskeexamen* (Bachelor of Science in Nursing [Midwifery]) (p. 74)	*Barnmorskeexamen* (University Diploma in Midwifery)	*Sjuksköterske-examen* and licensing as nurse	1.5 years (60 points)	Practice as a midwife	May be considered for undergraduate transfer credit determined through course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
72. *Sjukgymnastexamen* (University Certificate in Physical Therapy) (p. 75-76)	*Sjukgymnastexamen* (University Diploma in Physiotherapy)	University matriculation	3 years (120 points), from 1983 to 1993, 2.5 years (100 points)	Further education in the field	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.

Name of Credential under 1977 Law	Name of Credential under 1993 Law	Entrance Requirement	Length of Study	Gives Access in Sweden to	Placement Recommendation
73. *Arbetsterapeutexamen* (University Certificate in Occupational Therapy) (p. 75)	*Arbetsterapeutexamen* (University Diploma in Occupational Therapy)	University matriculation	3 years (120 points), formerly 2.5 years (100 points)	Further education in the field	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
74. *Laboratorieassistentexamen* (University Certificate in Medical Laboratory Technology) (p. 73)	*Högskoleexamen på Laboratorieassistentlinjen* (University Diploma in Biomedical Laboratory Science) (p. 73-75)	University matriculation	3 years (120 points), formerly 2.5 years (90 points)	Further tertiary education	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
75. *Hörselvårdsassistentexamen* (University Certificate in Diagnostic Audiology and Audio Therapy) (p. 72)	*Högskoleexamen på (field)* (Diploma in Diagnostic Audiology and Audio Therapy) (p. 73-75)	University matriculation	2 years (80 points)	Further study in the field	May be considered for undergraduate admission with up to 2 years of transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
76. *Högskoleexamen på Påbyggnadslinjen Hörselvårds* (Postgraduate Certificate in Audiology) (p. 72)	*Högskoleexamen på Hörselvårds (field)* (Diploma in [field]) (p. 73-75)	*Hörselvårdsassistentexamen*	1 year (40 points)	Employment	May be considered for undergraduate admission with up to 1 year of transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
77. *Receptarieexamen* (University Certificate in Dispensing Pharmacy) (p. 77)	a. not offered	a. University matriculation from 2- or 3-year pharmacy technician line	a. 1 year (40 points)	Preparation course for *Apotekarexamen*	May be considered for undergraduate admission with up to 1 year of transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
	b. *Receptarieexamen* (University Diploma in Dispensing Pharmacy)	b. University matriculation from other lines	b. 2 or 3 years (80 or 120 points)		
78. *Högskoleexamen på Ortopedtekniskalinjen:*					

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a. *Ortopedtekniker* (University Certificate in Prosthetics and Orthotics-Orthopedic Technician) (p. 75)	*Utbildningsbevis* (Certificate)	University matriculation	1.5 years (60 points)	Further tertiary education or employment	May be considered for undergraduate admission with up to 1.5 years of transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
b. *Ortopedingenjör* (Bachelor of Science in Prosthetics and Orthotics-Orthopedic Engineer [Prosthetist and Orthotist]) (p. 75)	*Högskoleexamen på (field)* (Diploma in Prosthetics and Orthotics [Orthopedic Engineer])	University matriculation	3 years (120 points)	Further tertiary education or employment	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
79. *Ortoptistexamen* (University Diploma in Orthoptics) (p. 75)	*Utbildningsbevis* (Certificate)	Degree in health-related field	1 year (40 points)	Employment	May be considered for undergraduate admission with up to 1 year of transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.

Music

80. *Högskoleexamen på Musikerlinjen* (University Certificate in Music) (p. 78)	*Konstnärlig Högskoleexamen i Musik* (University Diploma in Music)	University matriculation and audition	2 years (80 points)	Further tertiary education in music	May be considered for undergraduate admission with up to 2 years of transfer credit awarded on the same basis as for students of U.S. schools of music.
81. *Högskoleexamen på Musikerlinjen* (Bachelor of Fine Arts in Music) (p. 78)	*Konstnärlig Högskoleexamen i Musik* (University Diploma in Music)	University matriculation and audition	3 years (120 points)	Further tertiary education	May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.
82. *Högskoleexamen på Musikerlinjen* (Master of Fine Arts in Music) (p. 78)	*Konstnärlig Högskoleexamen i Musik* (University Diploma in Music)	University matriculation and audition	4 years (160 points)	Employment	May be considered for graduate admission as are graduates of U.S. schools of music.
83. *Musiklärarexamen* (Master of Fine Arts in Music Education) (p. 78)	*Musiklärarexamen* (University Diploma in Music Education)	University matriculation and audition	4 years (160 points)	Further tertiary education	May be considered for graduate admission.

Name of Credential under 1977 Law	Name of Credential under 1993 Law	Entrance Requirement	Length of Study	Gives Access in Sweden to	Placement Recommendation
84. *Högskoleexamen på Kyrkomusikerlinjen* (Master of Fine Arts in Church Music) (p. 78)	*Organistexamen* (University Diploma in Church Music)	University matriculation and audition	4 years (160 points)	Employment	May be considered for graduate admission as are graduates of U.S. schools of music.
85. *Högskoleexamen på Påbyggnadslinjen Utbildning i Musik* (Postgraduate Diploma in Music) (p. 78)	*Konstnärlig Högskoleexamen i Musik* (University Diploma in Music)	A degree in music	2 to 4 years (80 to 160 points)	Employment	May be considered for graduate transfer credit determined through a course-by-course analysis.
Psychology					
86. *Psykologexamen* (Master of Science in Psychology) (p. 78)	*Psykologexamen* (University Diploma in Psychology)	a. University matriculation b. 3- or 3.5-year degree or equivalent in related field	a. 5 years (200 points) b. 2 years (80 points)	Doctoral studies	May be considered for admission to a doctoral program.
Social Service					
87. *Högskoleexamen på Sociala Omsorgslinjen i [specialization]* (University Certificate in Social Service in [specialization]) (p. 79)	*Social Omsorgsexamen* (University Diploma in Social Care)	University matriculation	2.5 years (100 points), formerly 2 years (80 points)	Doctoral studies, employment	May be considered for undergraduate admission with up to 2.5 years of transfer credit determined through a course-by-course analysis.
88. *Socionomexamen/ Social examen* (Bachelor of Science in Social Work) (p. 80)	*Socionomexamen* (University Diploma in Social Work)	University matriculation	3.5 or 4 years (140 or 160 points)	Doctoral studies, employment	May be considered for graduate admission.

Teacher Education

89. *Förskollärarexamen* (University Certificate in Nursery and Infant Education) (p. 83)	*Barn- och Ungdomspedagogisk examen* (University Diploma in Child and Youth Training)	University matriculation	3 years (120 points), formerly 1.25/2/2.5 years (50/80/100 points) depending on previous ed. and experience	Further tertiary education, employment	May be considered for undergraduate admission with transfer credit determined through a course-by-course analysis.
90. *Fritidspedagogexamen* (University Certificate for Recreation and Leisure Education) (p. 83)	*Barn- och Ungdomspedagogisk examen* (University Diploma in Child and Youth Training)	University matriculation	3 years (120 points) formerly 1.25/2/2.5 years (50/80/100 points) depending on previous ed. and experience	Further tertiary education, employment	May be considered for undergraduate admission with transfer credit determined through a course-by-course analysis.
91. *Barnavårdslärarexamen* (Bachelor of Science in Child Welfare Education) (p. 87)	*Grundskollärarexamen* (Bachelor of Education [Compulsory Comprehensive School]) (p. 87)	University matriculation	3 years (120 points)	Further tertiary education	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis.
92. *Lågstadielärarexamen* (University Certificate in Primary Education, grades 1-3) (p. 85)	Not offered	University matriculation	2.5 years (100 points)	Further tertiary education	May be considered for undergraduate admission with up to 2.5 years of transfer credit determined through a course-by-course analysis.
93. *Mellanstadielärarexamen* (Bachelor of Education in Primary Education) (p. 85)	Not offered	University matriculation	3 years (120 points)	Further tertiary education	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis.

Name of Credential under 1977 Law	Name of Credential under 1993 Law	Entrance Requirement	Length of Study	Gives Access in Sweden to	Placement Recommendation
94. *Grundskollärarexamen* (Bachelor of Education, Compulsory Comprehensive School, Grades 1-7) (p. 85, 87-90)	*Grundskollärarexamen* (University Diploma in Education for Primary and Secondary School, Grades 1-7)	University matriculation	a. 3.5 years (140 points) b. 1 year (40 points)	Employment	May be considered for graduate admission.
95. *Grundskollärarexamen* (Bachelor of Education, Compulsory Comprehensive School, Grades 4-9) (p. 87-90)	*Grundskollärarexamen* (University Diploma in Education for Primary and Secondary School, Grades 4-9)	University matriculation	3.5 or 4.5 years (140 to 180 points)	Employment	May be considered for graduate admission.
96. *Högskoleexamen på Studie- och Yrkesorienteringslinjen* (Bachelor of Education in Careers Guidance Counseling) (p. 87)	*Studie- och Yrkesvägledarexamen* (University Diploma in Career Counseling)	University matriculation	3 years (120 points)	Further tertiary education	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis.
97. *Högskoleexamen på Industri- och Hantverkslärarlinjen* (University Certificate in Skilled Trades Ed.) (p. 87-88)	*Gymnasielärarexamen* (University Diploma in Education for Upper Secondary School)	University matriculation and 4 or 5 years of work experience	1 year (40 points)	Employment	May be considered for up to 1 year of undergraduate transfer credit.
98. *Högskoleexamen på Handels- och Kontorslärarlinjen* (University Certificate in Commercial and Clerical Education) (p. 87-88)	*Gymnasielärarexamen* (University Diploma in Education for Upper Secondary School)	University matriculation and 4 or 5 years of work experience	1 year (40 points)	Employment	May be considered for up to 1 year of undergraduate transfer credit.

99. *Ämneslärarexamen på (field)* (Master of Arts/Social Science/ Science in [(field)]) (p. 86-90)	*Gymnasielärarexamen* (University Diploma in Education for Upper Secondary School)	a. University matriculation b. 3.5-year university degree	a. 4.5 or 5.5 years (180 or 220 points), formerly 4 or 5.5 years (160 or 220 points) b. 1 year (40 points)	Doctoral studies	May be considered for admission to a doctoral program.
100. *Bildlärarexamen* (Bachelor of Arts in Art Education) (p. 86-87)	*Bildlärarexamen* (University Diploma in Art Education)	University matriculation and portfolio	3 years (120 points)	Further tertiary education	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis.
101. *Folkhögskollärarexamen* (University Diploma in Folk High School Education) (p. 88)	*Folkhögskollärarexamen* (University Diploma in Folk High School Education)	3-year university degree or 5 years of related work experience	1 year (40 points)	Further studies, employment	Represents completion of undergraduate teacher education courses.
102. *Flyglärarexamen* (University Certificate for Flight Instructors) (p. 88)	*Flyglärarexamen* (University Diploma in Aviation Education)	Pilot's license	1 year (40 points)	Employment	Represents completion of undergraduate teacher education courses.
103. *Hushållslärarexamen* (Bachelor of Science in Home Economics Education) (p. 89)	*Hushållslärarexamen* (University Diploma in Home Economics Education)	University matriculation	3 years (120 points)	Further studies, employment	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis.
104. *Idrottslärarexamen* (Bachelor of Education in Physical Education Teaching) (p. 90)	*Idrottslärarexamen* (University Diploma in Physical Education)	University matriculation	3 years (120 points)	Further studies, employment	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis.

Name of Credential under 1977 Law	Name of Credential under 1993 Law	Entrance Requirement	Length of Study	Gives Access in Sweden to	Placement Recommendation
105. *Specialpedagogexamen* (Postgraduate Diploma in Special Education) (p. 90)	*Specialpedagogexamen* (University Diploma in Special Education)	Teaching degree with at least 100 points and 5 years of teaching experience	1 or 1.5 years (40 or 60 points)	Doctoral studies	May be considered for graduate admission.
106. *Slöjdlärarexamen* (University Certificate in Craft Education) (p. 88, 90)	a. *Slöjdlärarexamen* (University Diploma in Craft Education)	a. University matriculation	a. 3 years (120 points)	a. Employment	a. May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis.
	b. Not offered	b. Experienced teachers	b. 1 year (40 points)	b. Further studies, employment	b. May be considered for 1 year of undergraduate transfer credit.
107. *Textillärarexamen* (Bachelor of Arts in Textile Craft Education) (p. 90)	*Slöjdlärarexamen med inriktning mot textilslöjd* (University Diploma in Craft Education)	University matriculation	3 years (120 points)	Further tertiary education	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis.
108. *Vårdlärarexamen* (University Diploma in Nursing Education) (p. 89)	*Gymnasielärarexamen* (University Diploma in Education for Upper Secondary School) (p. 86-90)	A university degree in a health-related field and 2 years of related work experience	1 or 1.5 years (40 or 60 points)	Further tertiary education	May be considered for up to 1.5 years of undergraduate transfer credit determined through a course-by-course analysis.
Theology					
109. *Högskoleexamen* or *Teologie Kandidatexamen på Religionsvetenskapliga Linjen*: (p. 81)					
a. Bachelor of Divinity	*Teologie Kandidatexamen* (University Diploma in Divinity) (p. 81)	University matriculation	3.5 years (140 points)	Doctoral studies	May be considered for graduate admission.
b. Master of Divinity	*Teologie Kandidatexamen* (University Diploma in Divinity) (p. 81)	University matriculation	4 years (160 points)	Doctoral studies	May be considered for admission to a doctoral program.

Appendix A

Tertiary Institution Profiles

Chalmers Tekniska Högskola **(Chalmers University of Technology), Svens Hultins Gata, S-412 96 Göteborg, Sweden, Tel: 46 31 772 10 00, Fax: 46 31 772 38 72.**

Est. as School of Industry in 1829 by businessman of Scottish descent. In 1899 the School of Ship Building was established, followed by Electrical Engineering and Architecture. In 1937 it became Chalmers University of Technology, one of leading technological universities in Sweden, with numerous research projects. Joint activities with the University of Göteborg in environmental science, mathematics, physics, chemistry, and geology. The College of Navigation, Marine Engineering and Plant Operations trains ships officers and nautical engineers. National Observatory, Onsala, is engaged in advanced radio astronomy research. Chalmers Science Park on campus houses research departments of major private enterprises.

- **Academic Staff:** (1993) 1,100
- **Enrollment:** (1993) 5,460 (900 doctoral students)
- **Library:** (1993) 540,000 volumes
- **Organization:** Schools of architecture (*arkitektur*), electrical and computer engineering (*elektro- och datorteknik*), physics and engineering physics (*fysik och teknisk fysik*), industrial engineering and management (*industriell produktion och ekonomi*), chemical engineering (*kemiteknik*), mechanical engineering and naval architecture (*maskin- och skeppsteknik*), civil engineering (*väg- och vattenbyggnadsteknik*), mathematical sciences (*matematiska avdelningen*) and the College of Applied Engineering and Maritime Studies (*ingenjörs- och sjöbefälsskolan*). Center for Bio-mechanics, Center of Bio-technology, Center for Building Environment in Western Sweden, Center for Computer Engineering, Center for Computer Calculations, Monitoring Center for Energy Research, Energy Technology Center, Center for Combustion Research, Center for Semiconductor and Microelectronics, Center for Fusion Science, Urban Geohydrology Research Group, Center for Information Technology in Construction, Center for Industrial Engineering and Management, Chalmers Innovation Center, Center for Marine Research and Technology, Center for Materials Science, Center for Man, Technology and Society, Powder Technology Center, Center for Forest Products Research, Center for the History of Technology and Industry, Center for Applied Artificial Intelligence, Center for Applied Mathematics, and the Center for Transport and Traffic.

Credentials Awarded:

Arkitektexamen (Master of Architecture) 160, 180 points.

Bevis (Certificate) points vary.

Civilingenjörsexamen på (field) (Master of Science in [field]) 160, 180 points.

Driftingenjörsexamen (Bachelor of Science in Control and Maintenance) 80 points.

Driftteknikerexamen (University Certificate in Control and Maintenance) 80 points.

Högskoleexamen Avseende Grundläggande (field) (University Certificate in [field]) 60 points.

Högskoleexamen i/på (field) (University Certificate for [field]) 60, 80 points.

Högskoleexamen i/på (field) (Bachelor of Science in [field]) at least 120 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80 points.

Kandidatexamen (Bachelor of Science in [field]) at least 120 points.

Maskinteknikerexamen (University Certificate in Marine Engineering) 80 points.

Master of Science 60 points, for students with foreign first degrees. Awarded in English only.

Sjöingenjörsexamen (Bachelor of Science in Marine Engineering) 40 points beyond the *Maskinteknikerexamen* or equivalent.

Sjökaptensexamen (Bachelor of Science in Nautical Science) 40 points beyond the *Styrmansexamen.*

Styrmansexamen (University Certificate in Nautical Science) 80 points.

Credentials Awarded After July 1993:

Arkitektexamen (University Diploma in Architecture) 180 points, also referred to as Master of Science in Architecture if the degree includes 80 points in the major subject.

Bevis (Certificate) points vary.

Civilingenjörsexamen (University Diploma in Engineering [field]) 180 points, also referred to as Master of Science in Engineering (field) if degree includes at least 80 points in major subject.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) at least 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in the major subject.

Magisterexamen (Master of [field]) at least 160 points with 80 points in the major subject.

Maskinteknikerexamen (University Diploma in Marine Engineering/Lower Level) 80 points.

Master of Science 60 points, for students with a foreign first degree. Issued in English only.

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Sjöingenjörsexamen (University Diploma in Marine Engineering) 40 points beyond the *Maskinteknikerexamen* or equivalent.

Sjökaptensexamen (University Diploma in Nautical Science/Master Mariner Level) 40 points beyond the *Styrmansexamen*.

Styrmansexamen (University Diploma in Nautical Science/Mate Level) 80 points.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) 60 points.

Advanced Degrees (no change after July 1993):

Teknisk Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Teknisk Licentiatexamen (Licentiate in/of Engineering) 80 points beyond the first degree.

- **Special Programs:** Continuing education short courses (*fortbildning*) in science, engineering, and architecture for upper secondary school teachers; specialization courses of one-half to a year for *Civilingenjör* graduates (see Chapter 8, "Internationalization and Study Abroad").
- **Internationalization:** Extensive cooperation in research with universities, institutes of technology, and other research centers; a partner in 80 projects within European Community's industrial scientific framework; actively encourages international student exchanges.
- **U.S. Exchanges:** University of California at Berkeley.

***Danshögskolan* (University College of Dance), P.O. Box 27043, S-102 51 Stockholm, Sweden, Tel: 46 8 666 36 00, Fax: 46 8 667 49 63.**

Est. 1963 as Choreographic Institute, in 1964 the pedagogy program added, in 1966 mime program begun, in 1970 became a state college (*Statens Dansskola*). In 1978 granted university level status. Only free-standing college for dance in Sweden.

- **Academic Staff:** (1993) 7 full-/39 part-time
- **Enrollment:** (1993) 162 (90 part-time)
- **Library:** 700 volumes
- **Organization:** Programs in choreography (*koreografi*), dance education (*danspedagogik*), mime (*mim*), folk dance (*folkdans*), and labanotation/dance notation (*datorstödd rörelsenotation*).

Credentials Awarded:

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80 points.

Högskoleexamen på Mim/Danslinjen (field) (Bachelor of Fine Arts in Mime/Dance [field]) 120 points.

Credentials Awarded After July 1993:

Bevis (Certificate) points vary.

Högskoleexamen på (field) (Diploma in [field]) at least 80 points.

Konstnärlig Högskoleexamen i Dans (University Diploma in Dance) at least 80 points.

- **Internationalization:** NORDPLUS and ERASMUS.

***Dramatiska Institutet* (University College of Film, Radio, Television and Theater), Box 27090, S-102 51 Stockholm, Sweden, Tel: 46 8 665 13 00, Fax: 46 8 662 14 84.**

Est. 1970, concentrates on practical work but includes theoretical studies. Professional education aimed at a career directly after studies.

- **Academic staff:** (1993) 3
- **Enrollment:** (1993) 90
- **Organization:** Departments of theater (*teater*), film, television, and video (*film, tv och video*), and radio (*radio*).

Credentials Awarded:

Högskoleexamen på Medielinjen (field) (University Certificate in Broadcasting Production [field]) 40, 80, 100 points.

Högskoleexamen på Medielinjen (field) (Bachelor of Fine Arts in [field]) 120 points.

Credentials Awarded After July 1993:

Bevis (Certificate) points vary.

Konstnärlig Högskoleexamen i Scen och Medier (University Diploma in Performing Arts and Media) at least 80 points.

- **Internationalization:** NORDPLUS and ERASMUS.

***Grafiska Institutet - GI Institutet för Högre Kommunikations- och Reklamutbildning/IHR* (University College of Management in Graphic Production Marketing and Public Relations), Box 27094, S-102 51 Stockholm, Sweden, Tel: 46 8 783 27 20, Fax: 46 8 783 27 21.**

Est. 1943 private institution for printing management, training, and education of future managers in graphic industry. In 1953, Graduate School of Communications was founded as a private institution for management of marketing, advertising, and public relations. In 1977, the two institutions became an independent university college with government funding, had been previously funded by industry.

- **Academic Staff:** 3 full-/60 part-time
- **Enrollment:** (1993) 180 full-/150 part-time
- **Library:** Reference and study library
- **Organization:** No formal departments. Programs in printing management and design and management in marketing, advertising, and public relations.

Grades:	*Väl godkänd*	1.5	Pass with Honors
	Godkänd	1.0	Pass
	Underkänd	0.0	Fail

Credentials Awarded:

Högskoleexamen på Grafiska Linjen (University Certificate in Graphic Management and Design) 80 points.

Högskoleexamen på Marknadsförings- och Reklamlinjen

(Postgraduate Certificate in Marketing and Public Relations Management) 60 points.

Credentials Awarded After July 1993:

Bevis (Certificate) 20 points beyond the *Högskoleexamen på Marknadsförings- och Reklamlinjen* or other 120-point degree.

Högskoleexamen på Grafiska Linjen (Diploma in Graphic Management and Design) 80 points.

Högskoleexamen på Marknadsförings- och Reklamlinjen (Diploma in Marketing and Public Relations Management) 60 points beyond 80 points.

- **Special Programs:** Specialized part-time courses for professionals.
- **Internationalization:** Bilateral agreements with European universities.

Handelshögskolan i Stockholm **(Stockholm School of Economics), Box 6501, Sveavägen 65, S-113 83 Stockholm, Sweden, Tel: 46 8 736 90 00, Fax: 46 8 31 81 86.**

Est. 1909, the oldest Swedish institution offering education in business administration and economics, only private university in Sweden. Emphasizes research as basis of education. Close contacts with Swedish business community promote grounding of theory with practice. Business people take part in seminars, give lectures, and support activities organized by school and student association. Ten to 15 percent of funding comes from Swedish government, the remainder from private and executive development programs.

- **Academic Staff:** (1993) 115
- **Enrollment:** (1993) 1,600
- **Library:** 210,000 volumes
- **Organization:** Departments of economics, international economics and geography, economic statistics, finance, law, management and organization, accounting and managerial finance, managerial economics, marketing distribution and industry dynamics, public management, information management, economic psychology; Centers for Risk Research and Health Economics, Foundation for Distribution Research. Executive Education Program organized into division for executive education, professional communication skills, business partner, executive seminars, and East European program. Research institutes connected to school: The Economic Research Institute, Institute of International Business, Institute for Research in Economic History, The European Institute of Japanese Studies, The Stockholm Institute of East European Economics.

Grading Scale: 0-200, with 200 highest and 100 = pass, also "highly commended," "approved," and "fail."

Credentials Awarded:

Civilekonomexamen (Bachelor of Science in Economics and Business Administration) 140 points.

Civilekonomexamen (Master of Science in Economics and Business Administration) 160 points.

Credentials Awarded After July 1993:

Civilekonomexamen/Ekonomie Magisterexamen (Master of Science in Economics and Business) 160 points.

Master of Business Administration (degree awarded only in English) points vary.

Advanced Degrees (no change after July 1993):

Ekonomie Doktorsexamen (Doctor of Philosophy) 160 points beyond the *Civilekonomexamen* or equivalent.

Ekonomie Licentiatexamen (Licentiate in/of Business Administration and Economics) 80 points beyond the *Civilekonomexamen* or equivalent.

- **Special Programs:** Community of European Management Schools (CEMS) program offers CEMS Master's degree with Swedish degree. Requires completion of first degree, fluency in three languages, two of which must be European. Several courses are offered at all participating institutions; 1 semester must be at one of the other member institutions outside the country, and students must complete a 10-week internship abroad. Courses offered in executive development training for managers and engineers in industry, including master's degree in Business Administration. Recently has allowed some students who have completed 5 semesters of economics at other institutions to transfer with full credit. Courses are also exchanged with the Royal Institute of Technology.
- **Internationalization:** Numerous agreements. About one-third of students in 4-year program and 75 percent of the doctoral students spend 1 term at a foreign university. Currently developing business school in Riga, Latvia, offering 2-year program for Baltic students, courses given in English.
- **U.S. Exchanges:** University of Pennsylvania Wharton School, New York University Leonard N. Stern School of Business, University of California John E. Anderson Graduate School of Management, University of Michigan School of Business Administration, University of Minnesota Curtis L. Carlson School of Management, University of Chicago Graduate School of Business, Columbia University, Columbia Business School. Swedish students in their sixth, seventh, or eighth semester participate in the M.B.A. program.

Högskolan för Lärarutbildning i Stockholm **(Stockholm Institute of Education), Box 34103, S-100 26 Stockholm, Sweden, Tel: 46 8 737 55 00, Fax: 46 8 737 55 01.**

Est. 1977 through merger of several teacher training schools. Programs in conjunction with

Stockholm University, University College of Arts, Crafts and Design, Royal University College of Music. Only institute specializing in teacher education at all levels. Offers specialized topic in-service teacher training.

- **Academic staff:** (1993) 403
- **Enrollment:** (1993) 6,000
- **Library:** 250,000 volumes
- **Organization:** Departments of educational research (education, careers counselor education, and nursing education); child and youth studies (recreation and leisure education and early childhood education); mathematics and science; humanistic and social sciences; art, drama, physical education, and music; language and literature; vocational teacher education (includes flight instructors education); and special education. Subject courses are taken at Stockholm University, art and design courses at University College of Arts, Crafts and Design, music courses at Royal University College of Music, physical education courses at Stockholm University College of Physical Education and Sports. Language studies 10 to 20 weeks abroad.

Credentials Awarded:

Ämneslärarexamen på (field) (Master of Arts/Science in [field] Education) 40, 160, 180, 200, 220 points.

Filosofie Kandidatexamen (Bachelor of Education) at least 120 points.

Flyglärarexamen (University Certificate for Flight Instructors) 40 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Grundskollärarexamen (Bachelor of Education [Compulsory Comprehensive School]) grades 1-7, 40, 140 points; grades 4-9, 40, 160, 180 points.

Högskoleexamen på Studie- och Yrkesvägledarlinjen (Bachelor of Education in Career Counseling) 120 points.

Specialpedagogexamen (Postgraduate Diploma in Special Education) 60 points beyond first teaching degree.

Vårdlärarexamen (University Diploma in Nursing Education) 60 points beyond nursing degree or equivalent.

Yrkespedegogisk examen (University Certificate in Vocational Teacher Education) 40 points.

Credentials Awarded After July 1993:

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points.

Flyglärarexamen (University Diploma in Aviation Education) 40 points.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1-7, 140 points; grades 4-9, 40, 160, 180 points.

Gymnasielärarexamen (University Diploma in Education for Upper Secondary School) subject teacher 40, 180, 200, 220 points; nursing teacher or vocational teacher 40 points.

Kandidatexamen (Bachelor of Arts in Educational Science [field]) at least 120 points with 60 points in the major subject.

Magisterexamen i Pedagogik (Master of Arts in Pedagogy) at least 160 points with 80 points in the major subject.

Specialpedagogexamen (University Diploma in Special Education) 40 points beyond first teaching degree.

Studie- och Yrkesvägledarexamen (University Diploma in Career Counseling) 120 points.

- **Special Programs:** Students are able to do their practice teaching abroad, including in the United States.
- **Internationalization:** ERASMUS, NORDPLUS, and bilateral agreements.

***Högskolan i Borås* (University College of Borås), Box 874, S-501 15 Borås, Sweden, Tel: 46 33 16 40 00, Fax: 46 33 11 95 98.**

Est. 1977 with merger of Preschool Teachers Seminary and the School of Library and Information Science with branch of Göteborg University, established in the 1970s. Known for programs in library and information science, and textile and clothing (engineering, marketing, and design). The School of Weaving Technology, est. 1866, includes advanced textile machinery, laboratories, workshops, and studios equipped with computer aided design.

- **Academic staff:** (1993) 99
- **Enrollment:** (1993) 3,200
- **Library:** 140,000 volumes
- **Organization:** Departments of business administration and computer science, education, engineering sciences, engineering sciences, textile and clothing, and the School of Library and Information Science.

Credentials Awarded:

Bevis (Certificate) points vary.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 140 points.

Filosofie Kandidatexamen (Bachelor of Arts [field]) at least 120 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 100 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80 points.

Högskoleexamen i/på (field) (Bachelor of Arts/Science [field]) at least 120 points.

Högskoleexamen på Bibliotekarielinjen (Bachelor of Arts in Librarianship) 20 points beyond 120-point degree; (University Diploma in Librarianship) 80 points beyond any university 80-point studies.

Högskoleexamen på Påbyggnadslinjen Dokumentatistutbilding (University Supplementary Diploma in Librarianship [Information Science]) 40 points beyond the *Doktorsexamen.*

Ingenjörsexamen på (field) (University Certificate in [field]) 80, 120 points.

Credentials Awarded After July 1993:

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points.

Bevis (Certificate) points vary.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in the major subject.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) 60 points.

- **Special Programs:** (see Chapter 8, "Internationalization and Study Abroad").
- **Internationalization:** ERASMUS, TEMPUS, COMETT, NORDPLUS, and agreements with institutions in Europe in many fields.
- **U.S. Exchanges:** Florida International University, Gustavus Adolphus College, Mankato State University, Minnesota State University, St. Paul, and Winona State University, Minn.

***Högskolan i Eskilstuna/Västerås* (University College of Eskilstuna/Västerås)**
(See *Mälardalens Högskola*)

***Högskolan i Falun/Borlänge* (University College of Falun/Borlänge), Box 1992, S-791 19 Falun, Sweden, Tel: 46 23 545 00, Fax: 46 23 545 50.**

Est. 1977, arts, computer science, economics, education engineering, sports, and tourism. Top level athletes combine training with studies.

- **Academic Staff:** (1993) 140
- **Enrollment:** (1993) 3,500
- **Library:** (1993) 50,000
- **Organization:** Courses in following areas: administration, economics, and social science, technology and natural sciences, and teaching. Research is also carried out by the Solar Energy Research Center, the Material Research Center, College of School Leadership, Lugnet Institute of Sports Sciences, Institute for Tourism and Travel Research, Center for Research in Transportation and Society, Center for Process Technology Research, and Labor and Industry Research Center.

Credentials Awarded:

Bevis (Certificate) points vary.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 140 points.

Filosofie Kandidatexamen (Bachelor of Arts/Science in [field]) at least 120 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Grundskollärarexamen (Bachelor of Education [Compulsory Comprehensive School]) grades 1-7, 140 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 60, 80, 120 points.

Högskoleexamen i/på (field) (Bachelor of Arts/Science in [field]) at least 120 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80 points.

Credentials Awarded After July 1993:

Bevis (Certificate) points vary.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1-7, 140 points.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80, 120 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in major subject.

Teknisk Kandidatexamen (Bachelor of Science in Engineering [field]) at least 120 points with 60 points in major subject.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) 60 points.

- **Internationalization:** COMETT, ERASMUS, NORDPLUS, and TEMPUS.
- **U.S. Exchanges:** University of Central Florida, University of Colorado, University of Southern Illinois, Rochester Institute of Technology.

***Högskolan i Gävle/Sandviken* (University College of Gävle/Sandviken), Box 6052, S-800 06 Gävle, Sweden, Tel: 46 26 64 85 00, Fax: 46 26 64 86 86.**

Est. 1977 incorporating National School of Teacher Training founded 1946 in Gävle. Special programs in health promotion, real estate and property management, mapping and surveying, and engineering and industrial economics.

- **Academic Staff:** (1993) 200
- **Enrollment:** (1993) 2,000 full-/1,600 part-time
- **Library:** 60,000 volumes
- **Organization:** Departments of technology, mathematics, natural sciences, computer science, business administration, humanities and social sciences, and teacher education.

Credentials Awarded:

Bevis (Certificate) points vary.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 140 points.

Filosofie Kandidatexamen (Bachelor of Arts [field]) at least 120 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Grundskollärarexamen (Bachelor of Education [Compulsory Comprehensive School]) grades 1-7, 140 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80 points.

Högskoleexamen i/på (field) (Bachelor of Arts/Science/Social Science in [field]) at least 120 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80, 120 points.

Credentials Awarded After July 1993:

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points.

Bevis (Certificate) points vary.

Ekonomie Kandidatexamen (Bachelor of Science in Business Studies and Economics) 120 points with at least 60 points in major subject.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1-7, 140 points.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80, 120 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in major subject.

Magisterexamen (Master of [field]) at least 160 points with 80 points in the major subject. After July 1993, this degree given in business administration.

Teknologie Kandidatexamen (Bachelor of Science in Engineering [field]) 120 points with at least 60 points in the major subject.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) 60 points.

- **Internationalization:** COMETT, ERASMUS, and NORDPLUS, exchanges with many European universities.
- **U.S. Exchanges:** University of Idaho and Gustavus Adolphus College.

***Högskolan i Halmstad* (University College of Halmstad), Box 823, S-301 18 Halmstad, Sweden, Tel: 46 35 15 31 00, Fax: 46 35 14 85 33.**

Est. 1983, the institution offers first degree programs in education, sports, economics, engineering, humanities, and social sciences.

- **Academic staff:** (1993) 100
- **Enrollment:** (1993) 3,000
- **Library:** 20,000 volumes
- **Organization:** Departments of economics (*ekonomi*), humanities (*humaniora*), and social sciences and behavior sciences (*samhälls-och beteendevetenskap*).

Credentials Awarded:

Bevis (Certificate) points vary.

Filosofie Kandidatexamen (Bachelor of Arts/Social Science in [field]) at least 120 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 80, 100 points.

Högskoleexamen i/på (field) (Bachelor of Arts [field]) 120 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80 points.

Credentials Awarded After July 1993:

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points.

Bevis (Certificate) points vary.

Ekonomie Kandidatexamen (Bachelor of Science in Business Administration and Economics) at least 120 points with 60 of those points in the major subject area.

Filosofie Kandidatexamen (Bachelor of Arts/Science/Social Science) at least 120 points with 60 points in the major subject.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80, 120 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in the major subject.

Magisterexamen (Master of [field]) at least 160 points with 80 points in the major subject. After July 1993, degree given in computer engineering, electrical engineering, business administration, industrial management, and economics with a specialization in innovative management systems.

Teknisk Kandidatexamen (Bachelor of Science in Engineering [field]) 120 points with 60 points in the major subject.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) 60 points.

- **Internationalization:** COMETT, ERASMUS, and NORDPLUS.

***Högskolan i Jönköping* (University College of Jönköping), Box 1026, S-551 11 Jönköping, Sweden, Tel: 46 36 15 77 00, Fax: 46 36 15 77 18.**

Est. 1977 when Training Colleges for Teachers and Nursery School Teachers combined with institutions of technical and vocational higher education. In July 1994 the University College became an independent private foundation. Programs and courses in education, business administration, law and economics, engineering/technology, and communication. Jönköping International Business

School/JIBS has been recently added.

- **Academic Staff:** 135
- **Enrollment:** (1993) 3,700
- **Library:** (1993) 77,000 volumes
- **Organization:** Departments of business management and economics, culture and communication, education, and technology. In July 1994 Department of Business Management and Economics became Jönköping International Business School (see Special Programs).

Credentials Awarded:

Bevis (Certificate) points vary.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 140 points.

Filosofie Kandidatexamen (Bachelor of Arts [field]) at least 120 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Grundskollärarexamen (Bachelor of Education [Compulsory Comprehensive School]) grades 1-7, 140 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80 points.

Högskoleexamen i/på (field) (Bachelor of Arts [field]) at least 120 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80, 120 points.

Credentials Awarded After July 1993:

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points.

Bevis (Certificate) points vary.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1-7, 140 points.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in major subject.

Magisterexamen (Master of [field]) at least 160 points with 80 points in major subject. After July 1993, given in the fields of business administration and teacher education.

- **Special Programs:** Jönköping International Business School/JIBS conducts research and provides business education with specialization in small and medium-sized companies. Courses taught in Swedish/English, allow for specialization in accounting, marketing, entrepreneurship, European business management, and service management. Since July 1994 has offered a 4-year program leading to Master of Science in Business Administration/Economics. Admission requires prior completion of at least 2 years of fulltime study at the university level, and a knowledge of business administration and economics equivalent to 1 year of fulltime study. The third and fourth years of the program are taught in English.

***Högskolan i Kalmar* (University College of Kalmar), Box 905, S-391 29 Kalmar, Sweden, Tel: 46 480 975 00, Fax: 46 480 182 98.**

Est. middle of the nineteenth century as maritime academy and seminary for teachers and integrated into the University College when it was established in 1977. Specializations include environmental studies, tourism studies, and media and communication.

- **Academic staff:** (1993) 200
- **Enrollment:** (1993) 3,000
- **Library:** 5,000 volumes
- **Organization:** Departments of social science and economics (*samhällsvetenskap och ekonomi*), teacher education (*lärarutbildning*), science (*naturvetenskap*), merchant marine (*sjöbefälsutbildning*), media and communication (*medie- och kommunikationsutbildning*), and technology (*teknik*).

Credentials Awarded:

Bevis (Certificate) points vary.

Driftteknikerexamen (University Certificate in Control and Maintenance) 80 points.

Filosofie Kandidatexamen (Bachelor of Arts [field]) at least 120 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Grundskollärarexamen (Bachelor of Education [Compulsory Comprehensive School]) grades 1-7, 140 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80 points.

Högskoleexamen i/på (field) (Bachelor of Arts [field]) at least 120 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80, 120 points.

Maskinteknikerexamen (University Certificate in Marine Engineering) 80 points.

Sjöingenjörsexamen (Bachelor of Science in Marine Engineering) 40 points beyond the *Maskinteknikerexamen* or the equivalent.

Sjökaptensexamen (Bachelor of Science in Nautical Science) 40 points beyond the *Styrmansexamen*.

Styrmansexamen (University Certificate in Nautical Science) 80 points.

Credentials Awarded After July 1993:

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points.

Bevis (Certificate) points vary.

Grundskollärarexamen (University Diploma in Education for Primary School and Secondary School) grades 1-7, 140 points.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in the major subject.

Magisterexamen (Master of [field]) at least 160 points with 80 points in the major subject. After July 1993 the degree may be given in the fields of biology and chemistry.

Maskinteknikerexamen (University Diploma in Marine Engineering/Lower Level) 80 points.

Sjöingenjörsexamen (University Diploma in Marine Engineering) 40 points beyond *Maskinteknikerexamen* or the equivalent.

Sjökaptensexamen (University Diploma in Nautical Science/Master Mariner Level) 40 points beyond *Styrmansexamen*.

Styrmansexamen (University Diploma in Nautical Science/Mate Level) 80 points.

- **Internationalization:** COMETT, ERASMUS, and NORDPLUS.

Högskolan i Karlskrona/Ronneby (University College of Karlskrona/Ronneby), S-371 79 Karlskrona, Sweden, Tel: 46 455 780 00, Fax: 46 455 780 97.

Est. 1989, courses and programs in a variety of fields at three sites: Gräsvik, Karlskrona, Ronneby.

- **Academic Staff:** (1993) 100
- **Enrollment:** (1993) 1,500
- **Library:** Karlskrona, Ronneby
- **Organization:** Branches of mechanical engineering (*maskinteknik*), physical planning and construction (*fysisk planering och byggteknik*), computer science and economics (*datavetenskap och ekonomi*), languages (*språk*), signal processing (*signalbehandling*), and telecommunications and mathematics (*telekommunikation och matematik*).

Credentials Awarded:

Bevis (Certificate) points vary.

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80 points.

Högskoleexamen i/på (field) (Bachelor of Arts [field]) at least 120 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80, 120 points.

Credentials Awarded After July 1993:

Bevis (Certificate) points vary.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in the major subject.

Magisterexamen (Master of [field]) at least 160 points with 80 points in major subject. After July 1993, degree given in the fields of electrical engineering, programming engineering, and business administration.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) 60 points.

- **Internationalization:** COMETT and ERASMUS.

Högskolan i Karlstad (University College of Karlstad), Box 9501, S-650 09 Karlstad, Sweden, Tel: 46 54 83 80 00, Fax: 46 54 83 84 50.

Est. as amalgamation of Teacher Training College, founded 1843, and *Universitetsfilialen*, a branch of Göteborg University, founded in 1967; became an independent institution in 1977. Attached science park provides industry, commerce, and education a place for exchange of ideas. Research conducted in variety of fields.

- **Academic staff:** (1993) 342 (84 part-time)
- **Enrollment:** (1993) 6,500
- **Library:** 120,000 volumes
- **Organization:** Departments of languages, literature, and art (*humaniora*); economics and business studies (*ekonomi*); teaching methods (*metodik*); natural sciences (*naturvetenskap*); education and psychology (*utbildningsvetens-kaperna och psykologi*); social sciences (*samhällsvetenskap*); computer science, statistics, and mathematics (*ADB, statistik och matematik*); and engineering and technology (*teknik*). There are 11 research groups focusing on service research, historical and philosophical research, speech and language, regional development, school and children, labor relations, computer education, technical chemistry, technical research, scientific research, and public health.

Credentials Awarded:

Ämneslärarexamen (Master of Arts/Science in [field] Education) 180 points.

Bevis (Certificate) points vary.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 140 points.

Filosofie Kandidatexamen (Bachelor of Arts [field]) at least 120 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 80, 100 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 80, 100 points.

Grundskollärarexamen (Bachelor of Education [Compulsory Comprehensive School]) grades 1-7, 140 points; grades 4-9, 160 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80 points.

Högskoleexamen i/på (field) (Bachelor of Arts [field]) at least 120 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80, 120 points.

Credentials Awarded After July 1993:

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points.

Bevis (Certificate) points vary.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1-7, 140 points; grades 4-9, 160, 180 points.

Gymnasielärarexamen (University Diploma in Education for Upper Secondary School) 180 points.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in the major subject.

Magisterexamen (Master of [field]) at least 160 points with 80 points in major subject. After July 1993 the degree given in business studies, chemistry, comparative literature, computer science, economics, education, English, French, history, human and social geography, political science, religion, and sociology.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) 60 points.

- **Special Programs:** (see Chapter 8, "Internationalization and Study Abroad").
- **Internationalization:** Extensive European agreements.
- **U.S. Exchanges:** Arizona State University, Augustana College, Gustavus Adolphus College, Indiana University of Pennsylvania, University of Louisville, and the University of Akron.

***Högskolan i Kristianstad* (University College of Kristianstad), Box 59, S-291 21 Kristianstad, Sweden, Tel: 46 44 18 30 00, Fax: 46 44 12 96 51.**

Est. 1977, 12 first degree programs, courses in many fields, Centers for Polymer and Molding Technology, Food Quality, and In-Service Training. Courses offered at various sites in Kristianstad and Hässleholm but in 1994-1995 all sites will be contained in new facility outside Kristianstad.

- **Academic Staff:** (1993) 150
- **Enrollment:** (1993) 3,500
- **Library:** 35,000 volumes
- **Organization:** Departments of technology (*teknik*), mathematics and natural science (*matematik och naturvetenskap*), economics (*ekonomi*), pedagogy and methods (*pedagogik och metodik*), and humanities and social science (*humaniora och samhällsvetenskap*).

Credentials Awarded:

Bevis (Certificate) points vary.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 120 points.

Filosofie Kandidatexamen (Bachelor of Arts [field]) at least 120 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 100 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 100 points.

Grundskollärarexamen (Bachelor of Education [Compulsory Comprehensive School]) grades 1-7, 140 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80 points.

Högskoleexamen i/på (field) (Bachelor of Arts [field]) at least 120 points.

Credentials Awarded After July 1993:

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points.

Bevis (Certificate) points vary.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1-7, 140 points.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in the major subject.

- **Internationalization:** European exchange agreements with 12 countries.
- **U.S. Exchanges:** University of Southern Maine (1985).

***Högskolan i Luleå* (Luleå University College and Institute of Technology), S-951 87 Luleå, Sweden, Tel: 46 920 910 00, Fax: 46 920 972 88.**

Est. 1971, it is the most northern tertiary institution in Sweden with branch campuses in Skellefteå, Piteå, and Kiruna, and was created by merging the Institute of Technology, the Pedagogy Institute, and the School of Music. Special emphasis is on research in civil and environmental engineering. One of 12 Swedish tertiary institutions offering graduate programs, only University College empowered to confer doctoral degrees. Schools of Business Administration and Music were established in the 1980s. School of Music, located in Piteå, has one of the finest organ collections in Sweden.

- **Academic Staff:** (90-91) 314 fulltime/70 part-time
- **Enrollment:** (92/93) 5,600 with 300 doctoral students
- **Library:** 180,000 volumes
- **Organization:** Schools of engineering (*teknisk*), business administration and social sciences (*administrativ, ekonomisk och social*), education (*lärarhögskolan*), and music (*musikhögskolan*).

Credentials Awarded:

Bergsingenjörsexamen (Master of Science in Geotechnology) 160, 180 points.

Bevis (Certificate) points vary.

Civilingenjörsexamen på (field) (Master of Science in [field]) 160, 180 points.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 140 points.

Filosofie Kandidatexamen (Bachelor of Arts [field]) 120, 140 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Förvaltningsexamen (Bachelor of Science in Public Administration) 140 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Grundskollärarexamen (Bachelor of Education [Compulsory Comprehensive School]) grades 1-7, 140 points.

Högskoleexamen Avseende Grundläggande (field) (University Certificate in [field]) 80 points.

Högskoleexamen Avseende Påbyggnadsutbildning i (field) (University Diploma in [field]) 40 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80, 100 points.

Högskoleexamen i/på (field) (Bachelor of Arts [field]) at least 120, 140 points.

Högskoleexamen på Musikerlinjen (Master of Fine Arts in Music) 170 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80, 120 points.

Internationell Ekonomexamen (Master of Science in Business Administration and Economics) 160 points.

Musiklärarexamen (Master of Fine Arts in Music Education) 160 points.

Credentials Awarded After July 1993:

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points.

Bevis (Certificate) points vary.

Civilingenjörsexamen (University Diploma in Engineering [field]) 180 points, may also be referred to as the Master of Science in Engineering if the degree includes 80 points in the major subject.

Ekonomie Kandidatexamen (Bachelor of Science in Business Administration and Economics) 140 points including 60 points in the major subject.

Ekonomie Magisterexamen (Master of Science in Business Administration and Economics) 160 points including 80 points in the major subject.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1 to 7, 140 points; grades 4 to 9, 180 points.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in the major subject.

Magisterexamen (Master of [field]) 160 points with 80 points in the major subject.

Musiklärarexamen (University Diploma in Music Education) 160 points.

Organistexamen (University Diploma in Church Music) 160 points.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) 60 points.

Advanced Degrees (no change after July 1993):

Ekonomie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Ekonomie Licentiatexamen (Licentiate in/of Business Administration and Economics) 80 points beyond the first degree.

Filosofie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Filosofie Licentiatexamen (Licentiate in/of Philosophy) 80 points beyond the first degree.

Teknisk Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Teknisk Licentiatexamen (Licentiate in/of Engineering) 80 points beyond first degree.

- **Special programs:** A 1-year, 40-point "bridge" program for graduates of 2-year University Certificate programs who wish to enter Master of Science program. Content provides additional studies in mathematics and science. Points earned do not count towards the higher degree (see Chapter 8, "Internationalization and Study Abroad").
- **Internationalization:** ERASMUS and *Europahögskolan* (a double degree program in materials engineering in conjunction with engineering schools in France, Germany, and Spain) and is actively seeking exchange programs. Many courses offered in English.
- **U.S. Exchanges:** Colorado School of Mines, Golden, Clarkson University, Potsdam, N.Y., University of Alaska, Fairbanks, member of International Student Exchange Program (ISEP).

***Högskolan i Örebro* (University College of Örebro), Box 923, S-701 30 Örebro, Sweden, Tel: 46 19 30 10 00, Fax: 46 19 33 01 30.**

Est. 1977 through merger of former branch of Uppsala University, the School of Social Work and Public Administration, Training College of Nursery-School Teachers, College of Physical Education, and College for the Training of Music Teachers. Close collaboration with industry, trade, and public sector.

- **Academic Staff:** (1993) 400
- **Enrollment:** (1993) 7,000
- **Library:** 165,000 volumes
- **Organization:** Departments of ADP, economics, business administration, systems analysis, local government administration, nursing and health care administration, personnel management, social science, social work, school administration, public relations, cultural science, law, international law, control and maintenance, electronics, electrical engineering, mechanical engineering, structural engineering, nursery and infant education, music, physical education, and restaurant

trade. Research groups: Örebro History, Forum for Research on Working Life, Center for Housing and Urban Research, Center for Public Administration, Center for Studies of Women and Equality, Novemus (School of Public Affairs), Social Work Research Group, Center for School and Child-Care Research, Quality Study Project, ADP Technology, Forum for Immigration and Culture, and School Management.

Credentials Awarded:

Bevis (Certificate) points vary.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 140 points.

Filosofie Kandidatexamen (Bachelor of Arts/Science/Social Science [field]) at least 120 points.

Idrottslärarexamen (Bachelor of Education in Physical Education Teaching) 120 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Förvaltningsexamen (Bachelor of Science in Public Administration) 140 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Högskoleexamen Avseende Grundläggande (field) (University Certificate in [field]) 80 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80 points.

Högskoleexamen i/på (field) (Bachelor of Arts/Science/Social Science [field]) at least 120 points.

Högskoleexamen på Påbyggnadslinjen (field) (Master of Science in [field]) 40, 60 points beyond the first degree.

Ingenjörsexamen på (field) (University Certificate in [field]) 80, 120 points.

Musiklärarexamen (Master of Fine Arts in Music Education) 160 points.

Socionomexamen (Bachelor of Science in Social Work) 140 points.

Credentials Awarded After July 1993:

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points.

Bevis (Certificate) points vary.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1-7, 180 points.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Idrottslärarexamen (University Diploma in Physical Education) 120 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in the major subject.

Magisterexamen (Master of [field]) at least 160 points with 80 points in the major subject. After July 1993 degree given in business administration, comparative literature, economics, education, English, history, political science, psychology, social science, social work, and statistics.

Musiklärarexamen (University Diploma in Music Education) 160 points.

Socionomexamen (University Diploma in Social Work) 140 points.

- **Internationalization:** COMETT, ERASMUS, NORDPLUS, and student exchanges in Europe and Canada.
- **U.S. Exchanges:** Central Missouri State University, Indiana University, Southeast Missouri State University, and Washburn University.

***Högskolan i Östersund* (University College of Östersund), Box 373, S-831 25 Östersund, Sweden, Tel: 46 63 16 53 00, Fax: 46 63 16 54 54.**

In 1993 was incorporated with the University College of Sundsvall/Härnösand and renamed *Mitthögskolan* (Mid Sweden University). (See *Mitthögskolan.*)

***Högskolan i Skövde* (University College of Skövde), Box 408, S-541 28 Skövde, Sweden, Tel: 46 500 46 46 00, Fax: 46 500 41 63 25.**

Est. 1977, one of the smallest and newest of university colleges, all programs linked to industry, oriented towards research and case studies. Primary areas of research are artificial neural networks, database theory, effect electronics, and languages.

- **Academic staff:** 60 fulltime and 20 part-time
- **Enrollment:** (1993) 2,000
- **Library:** 80,000 volumes
- **Organization:** Departments of engineering (*ingenjörsvetenskap*), computer science (*datavetenskap*), business administration and economics (*ekonomi*), fine arts and media (*konst och media*), modern languages (*moderna språk*), and behavioral sciences (*beteendevetenskap*). Center for Austrian Studies.

Credentials Awarded:

Bevis (Certificate) points vary.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 140 points.

Filosofie Kandidatexamen (Bachelor of Arts/Science in [field]) at least 120 points.

Filosofie Kandidatexamen (Master of Science [field]) at least 160 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 80 points.

Högskoleexamen i/på (field) (Bachelor of Arts/Science in [field]) at least 120 points.

Högskoleexamen i/på (field) (Master of Arts/Science in [field]) at least 160 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80 points.

Credentials Awarded After July 1993:

Bevis (Certificate) points vary.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in

Engineering/Lower Level [field]) 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in major subject.

Magisterexamen (Master of [field]) at least 160 points with 80 points in major subject. After July 1993 the degree given in the field of computer science.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) points vary.

- **Special Programs:** Many courses in economics, system analysis, and computer science are in English.
- **Internationalization:** Exchanges with European universities.
- **U.S. Exchanges:** Yes.

***Högskolan i Sundsvall/Härnösand* (University College of Sundsvall/Härnösand), Box 860, S-851 24 Sundsvall, Sweden, Tel: 46 60 18 86 00, Fax: 46 60 18 87 00.**

In July 1993 was renamed *Mitthögskolan* (Mid Sweden University). (See *Mitthögskolan* [Mid Sweden University College])

***Högskolan i Trollhättan/Uddevalla* (University College of Trollhättan/Uddevalla), Box 936, S-461 29 Trollhättan, Sweden, Tel: 46 520 47 50 00, Fax: 46 520 47 51 99.**

Est. 1990. Courses offered in the towns of Trollhättan (administrative center and technology courses), Uddevalla (economics and ADB courses), and Vänersborg (education and humanities courses). Single subjects in marine biology are taught in Lysekil.

- **Academic Staff:** (1993) 100
- **Enrollment:** (1993) 2,000
- **Library:** 7,300
- **Organization:** Departments of technology (*teknik*), economics and computer science (*ekonomi och ADB*), and education and humanities (*undervisning och humaniora*).

Credentials Awarded:

Bevis (Certificate) points vary

Driftteknikerexamen (University Certificate in Control and Maintenance) 80 points.

Filosofie Kandidatexamen (Bachelor of Arts [field]) at least 120 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 100 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 100 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 80 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80 points.

Credentials Awarded After July 1993:

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points

Bevis (Certificate) points vary

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in major subject.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) 80 points.

- **Special Programs:** Work placements with General Motors, Michigan.
- **Internationalization:** COMETT, ERASMUS, and TEMPUS.

***Högskolan i Växjö* (University College of Växjö), S-351 95 Växjö, Sweden, Tel: 46 470 685 00, Fax: 46 470 832 17.**

Est. 1967 as branch of Lund University. In 1977 merged with Växjö Teacher Training College; in 1987 school of engineering was added to the University College, a major regional university college in southeast. Research is conducted in managerial science, social sciences, computer and information sciences, engineering, humanities, and teacher education.

- **Academic Staff:** (1993) 300
- **Enrollment:** (1993) 6,200
- **Organization:** Schools of engineering (*teknik*), economics (*ekonomi*), humanities (*humaniora*), education (*lärarutbildning*), mathematics and systems (*matematiska, data- och systemvetenskap*), and social science (*samhällsvetenskap*).

Credentials Awarded:

Bevis (Certificate) points vary.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 140 points.

Filosofie Kandidatexamen (Bachelor of Arts [field]) at least 120 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Förvaltningsexamen (Bachelor of Science in Public Administration) 140 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Grundskollärarexamen (Bachelor of Education [Compulsory Comprehensive School]) grades 1-7, 140 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80 points.

Högskoleexamen i/på (field) (Bachelor of Arts [field]) at least 120 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80 points.

Internationell Ekonomexamen (Master of Science in Business Administration and Economics - International Business Program) 160 points.

Credentials Awarded After July 1993:

Barn- och ungdomspedagogiskexamen (University Diploma in Child and Youth Training) 120 points.

Bevis (Certificate) points vary.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1-7, 140 points; grades 4-9, 180 points.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in the major subject.

Magisterexamen (Master of [field]) at least 160 points with 80 points in major subject. After July 1993 degree given in economics, education, English, French, history, literature, mathematics, political science, and sociology.

- **Special Programs:** (see Chapter 8, "Internationalization and Study Abroad").
- **Internationalization:** Extensive worldwide international agreements; seeks exchange.
- **U.S. Exchanges:** Gustavus Adolphus College, Augustana College, University of Minnesota, Duluth, Bemidji State University, University of Wisconsin at Eau Claire, Central Missouri State University, and ISEP.

***Högskoleutbildning på Gotland* (Gotland College of Higher Education), Norra Hansegatan 16a, S-621 42 Visby, Sweden, Tel: 46 498 29 99 00, Fax: 46 498 21 96 65.**

Est. in 1988, an educational center for courses taught in cooperation with the Royal Institute of Technology and Stockholm University. Universities of Umeå and Göteborg, University Colleges of Östersund and Växjö, and the Stockholm Institute of Education also offer courses at this center, with cooperative degrees awarded.

***Idrottshögskolan* (Stockholm University College of Physical Education and Sports), Box 5626, S-114 86, Stockholm, Sweden, Tel: 46 8 23 37 20, Fax: 46 8 24 99 33**

Est. 1813, it is the oldest university college for physical education in the world, with programs in sports coaching, physical education teaching, and sports and health education.

- **Academic Staff:** (1993) 45
- **Enrollment:** (1993) 520
- **Library:** (1993) 40,000 volumes
- **Organization:** Departments of sports and health sciences (*idrotts-och hälsovetenskap*) and sports and health didactics (*idrotts- och hälsodidaktik*).

Credentials Awarded:

Idrottslärarexamen (Bachelor of Education in Physical Education Teaching) 120 points.

Credentials Awarded After July 1993:

Hälsopedagogexamen (Diploma in Sports Science and Health Education) 80 points.

Idrottslärarexamen (University Diploma in Physical Education) 120 points.

Specialidrottstränarexamen (Diploma in Sports Science and Coaching) 80 points.

- **Internationalization:** NORDPLUS.

***Karolinska Institutet* (Karolinska Institute), S-171 77 Stockholm, Sweden, Tel: 46 8 728 64 00, Fax: 46 8 31 84 06.**

Est. 1810 by war surgeons, in 1861 was granted authority to give degrees. It is the largest institution in Sweden for medical education and research; trains a third of Sweden's physicians, half its dentists, a quarter of its physiotherapists. Nobel prize in physiology or medicine is decided by the Nobel Assembly of the Karolinska Institute. The World Health Organization has five collaborating research and education centers at the institute. Main part of funding allocated to research. The institute maintains the primary Swedish medical library.

- **Academic Staff:** (1993) 1,245
- **Enrollment:** (1993) 2,500 (1,400 doctoral students)
- **Library:** 566,000 volumes
- **Organization:** Faculties of Medicine (*Medicinska*) and Dentistry (*Odontologiska*). Until July 1993 there were 140 departments but after that date reorganized to 35 departments. The medical and physical therapy programs are taught at a central campus in Stockholm with clinical portion located at five area hospitals. Dentistry is taught at Huddinge.

Credentials Awarded:

Läkarexamen (University Medical Degree) 220 points.

Logopedexamen (Bachelor of Science in Speech Pathology and Therapy) 120, 140, 160 points. Since 1991, taught in conjunction with Stockholm University. The first 2 years are at Stockholm with the remainder of the program and degree awarded at Karolinska Institute.

Psykoterapeutexamen (University Diploma in Psychotherapy) 60 points.

Sjukgymnastexamen (University Certificate in Physical Therapy) 100 points; (Bachelor of Science in Physical Therapy) 20 points beyond first degree in field.

Tandläkarexamen (University Dental Degree) 180 points.

Credentials Awarded After July 1993:

Högskoleexamen (Diploma in [field]) at least 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in major subject.

Läkarexamen (University Diploma in Medicine) 220 points

Logopedexamen (University Diploma in Speech Pathology and Therapy) 160 points.

Magisterexamen (Master of [field]) at least 160 points with 80 points in the major subject.

Psykoterapeutexamen (University Diploma in Psychotherapy) 60 points.

Sjukgymnastexamen (University Diploma in Physiotherapy) 120 points.

Tandläkarexamen (University Diploma in Dentistry) 180 points.

Advanced Degrees (no change after July 1993):

Doktorsexamen i Medicinsk Vetenskap (Doctor of Medical Science) 160 points beyond the first degree.

Doktorsexamen i Odontologi (Doctor of Odontology) 160 points beyond the first degree.

Licentiatexamen i Folkhälsovetenskap (Master of Public Health) 80 points beyond a 120-point university degree.

Licentiatexamen i Medicinsk Vetenskap (Licentiate in/of Medical Science) 80 points beyond first degree.

Licentiatexamen i Odontologi (Licentiate in/of Odontology) 80 points beyond first degree.

- **Special Programs:** Karolinska International Research and Training (KIRT) provides opportunities in research and higher education to students from third world countries. Training is offered in "sandwich" programs. Students spend part-time at Karolinska and rest in home country. Studies may lead to a Master of Science or Ph.D. awarded by Karolinska Institute. Offers free-standing courses in the medical field for broadening or upgrading training; open to doctors and nurses, also to medical journalists, health care teachers, preschool teachers, psychologists, lawyers, etc.
- **Internationalization:** Active exchange programs with institutions worldwide.
- **U.S. Exchanges:** Harvard Medical School (1986), Vanderbilt School of Medicine (1986), UCLA School of Medicine (1986), Tulane School of Medicine (1986), Brown University, Division of Biology and Medicine (1986), Mt. Sinai, Albert Einstein, and Mayo.

***Konstfack* (University College of Arts, Crafts and Design), Box 27 116, S-102 52 Stockholm, Sweden, Tel: 46 8 667 95 50, Fax: 46 8 667 84 37.**

Est. 1844, offers a variety of arts, crafts and design programs.

- **Academic Staff:** (1993) 170
- **Enrollment:** (1993) 550
- **Library:** (1993) 100,000 volumes
- **Organization:** Departments of painting (*måleri*), graphic design and illustration (*grafisk design och illustration*), industrial design (*industridesign*), interior architecture (*inredningsarkitektur och möbeldesign*), textile art and design (*textil konst och formgivning*), ceramics and glass (*keramik och glas*), metal crafts (*metallkonsthantverk*), sculpture (*skulptur*), and photography (*akademin för fotografi*).

Credentials Awarded:

Högskoleexamen i/på (field) (University Certificate in [field]) 40 points.

Högskoleexamen på Konsthantverkslinjen (field) (Master of Fine Arts in Applied Arts and Crafts [field]) 170 points.

Högskoleexamen på Linjen för Bild och Miljö (Master of Fine Arts in Environmental Art) 200 points.

Högskoleexamen på Påbyggnadslinjen (field) (Postgraduate Diploma in [field]) 80 points beyond first degree in field or equivalent experience.

Credentials Awarded After July 1993:

Bevis (Certificate) points vary.

Bildlärarexamen (University Diploma in Art Education) 120 points.

Högskoleexamen (field) (Diploma in [field]) at least 80 points.

Konstnärlig Högskoleexamen i Konst och Design (University Diploma in Fine Arts and Design) 170, 200 points.

Högskoleexamen på Påbyggnadslinjen Fotografi (Postgraduate Diploma in Photography) 80 points beyond the first degree in photography.

- **Internationalization:** COMETT, ERASMUS, NORDPLUS, and TEMPUS.
- **U.S. Exchanges:** Parsons School of Design, New York, Otis/Parsons School of Design, Los Angeles.

***Kungliga Konsthögskolan* (Royal University College of Fine Arts and School of Architecture), Box 163 17, S-103 26 Stockholm, Sweden, Tel: 46 8 614 40 00, Fax: 46 8 21 13 39.**

Est. as The Royal Academy of Painters and Sculptors, 1735. In 1773 the School of Architecture was established within the Academy, in 1810 renamed Royal Academy of Fine Arts, in the early twentieth century renamed Royal College of Fine Arts. Focus of the School of Architecture changed to postgraduate training. In 1978, school became independent of the Royal Academy of Fine Arts, a free-standing college.

- **Academic Staff:** (1993) 27
- **Enrollment:** (1993) 240
- **Library:** 12,000 volumes
- **Organization:** University College consists of autonomous schools: painting (*måleri*), murals and monumental art (*monumentalkonst*), sculpture (*skulptur*), print-making (*grafik*), architecture (*arkitektur*), and architectural restoration (*restaureringskonst*). There are also departments for drawing, art history and theory, materials science, and video and intermedia.

Credentials Awarded:

Högskoleexamen på Linjen för Fri Konst (field) (Master of Fine Arts in [field]) 200 points.

Högskoleexamen på Påbyggnadslinjen (field) (Postgraduate Diploma in [field]) 40 points.

Credentials Awarded After July 1993:

Konstnärlig Högskoleexamen i Konst (University Diploma in Fine Arts) 200 points.

Utbildningsbevis för Arkitektur (Byggnadskonst/Restaureringskonst) (Postgraduate Diploma in Architecture Conservation) 40 points.

- **Special Programs:** Students are required to participate in study abroad trip during year 3.

- **Internationalization:** ERASMUS and NORDPLUS.

Kungliga Musikhögskolan i Stockholm **(Royal University College of Music in Stockholm), Box 27711, S 115 91 Stockholm, Sweden, Tel: 46 8 16 18 00, Fax: 46 8 664 14 24.**

Est. 1771, largest and only free-standing College of Music. Included opera until became separate institutions in 1968.

- **Academic Staff:** (1993) 42 fulltime/185 part-time
- **Enrollment:** (1993) 670
- **Library:** 20,000 volumes
- **Organization:** four faculties: music (*musiker*), church musician (*kyrkomusiker*), music education (*musiklärare*), and music education research (*forskarutbildning samt konstnärligt/-pedagogiskt utvecklingsarbete*).

Credentials Awarded:

Bevis (Certificate) points vary.

Högskoleexamen i/på (field) (University Certificate in [field]) 60, 80 points.

Högskoleexamen på Musikerlinjen (Bachelor of Fine Arts in Music) 120, 140 points.

Högskoleexamen på Musikerlinjen (Master of Fine Arts in Music) 160 points.

Högskoleexamen på Kyrkomusikerlinjen (Master of Fine Arts in Church Music) 160 points.

Musiklärarexamen (Master of Fine Arts in Music Education) 160 points.

Påbygnadsutbildnings i Musik (field) (Postgraduate Diploma in Music [field]) 80, 120 points.

Credentials Awarded After July 1993:

Bevis (Certificate) points vary.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Konstnärlig Högskoleexamen i Musik (University Diploma in Music) 80 to 160 points.

Musiklärarexamen (University Diploma in Music Education) 160 points.

Organistexamen (University Diploma in Church Music) 160 points.

Utbildningsbevis i Musik (Postgraduate Diploma in Music) 80, 120 points.

Advanced Degrees (no change after July 1993):

Filosofie Doktorsexamen (Doctor of Philosophy) 160-point program after first degree.

- **Internationalization:** ERASMUS and NORDPLUS.

Kungliga Tekniska Högskolan/KTH **(The Royal Institute of Technology), S-100 44 Stockholm, Sweden, Tel: 46 8 790 60 00, Fax: 46 8 790 65 00.**

Est. as the School of Mechanics in 1798, and renamed the Technological Institute in 1827, in 1876 it was renamed the Royal Institute of Technology. *Kungliga Tekniska Högskolan/KTH* is the oldest and largest Swedish institution for engineering education and technical research. About 30% of all engineering undergraduate studies in Sweden are undertaken here. The institution is in Group One of the FEANI (European Federation of National Associations of Engineers).

- **Academic Staff:** (1993) 800
- **Enrollment:** (1993) 8,000 (800 doctoral students)
- **Library:** 600,000 volumes
- **Organization:** divided into five schools and the College of Applied Engineering. Schools of architecture, surveying, and civil engineering (*arkitektur, lantmäteri och väg- och vattenbyggnad*), chemistry and chemical engineering (*kemiteknik*), engineering physics (*teknisk fysik*), electrical engineering and information technology, (*elektro- och informationsteknik*), and mechanical and materials engineering (*maskin- och materialteknik*). College of Applied Engineering consists of 2-year programs in chemical engineering, electrical engineering, mechanical engineering, and construction engineering, also optional third year in some applied engineering fields.

Credentials Awarded:

Bevis (Certificate) points vary.

Arkitektexamen (Master of Architecture) 160, 180 points.

Civilingenjörsexamen på (field) (Master of Science in [field]) 160, 180 points.

Driftingenjörsexamen (Bachelor of Science in Control and Maintenance) 80 points after completion of the *Driftteknikerexamen* or equivalent.

Driftteknikerexamen (University Certificate in Control and Maintenance) 80 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 60, 80 points.

Högskoleexamen i/på (field) (Bachelor of Science in [field]) at least 120 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 40, 80 points.

Credentials Awarded After July 1993:

Arkitektexamen (University Diploma in Architecture) 180 points, also Master of Architecture if the degree includes at least 80 points in the major subject.

Bevis (Certificate) points vary.

Civilingenjörsexamen på (field) (University Diploma in [field]) 180 points, also Master of Science in (field) if it includes at least 80 points in the major subject.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in the major subject.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) 60 points.

Advanced Degrees (no change after July 1993):

Teknologie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Teknologie Licentiatexamen (Licentiate in/of Engineering) 80 points beyond the first degree.

- **Internationalization:** Numerous exchange agreements with European and Australian universities.
- **U.S. Exchanges:** University of Florida, University of Houston, Worcester Polytechnic Institute, Thayer School, Dartmouth College, Purdue University, Stanford University, and the University of Wisconsin-Madison.

***Lunds Universitet* (Lund University), Box 117, S-221 00 Lund, Sweden, Tel: 46 46 10 70 00, Fax: 46 46 10 47 20.**

***Tandvårdshögskolan* (Malmö Center for Oral Health Sciences), Carl Gustafs Väg 34, S-214 21 Malmö, Sweden, Tel: 46 40 32 20 00, Fax: 46 40 92 53 59.**

***Musikhögskolan i Malmö* (Malmö School of Music), Box 135 15, S-200 44 Malmö, Sweden, Tel: 46 40 32 54 40, Fax: 46 40 32 54 60.**

***Lärarhögskolan i Malmö* (Malmö School of Education), Box 23 501, S-200 45 Malmö, Sweden, Tel: 46 40 32 50 00, Fax: 46 40 32 52 25.**

***Teaterhögskolan i Malmö* (Malmö School of Theater), Box 4276, S-203 14 Malmö, Sweden, Tel: 46 40 32 55 65, Fax: 46 40 32 55 70.**

Est. 1666, in 1946 the Dental School in Malmö became the Faculty of Odontology, and in 1969 the Lund Institute of Technology became the Faculty of Technology. In 1977 the Malmö Teachers Training College and the Malmö Music College were affiliated. This is the largest institution for research and higher education in Scandinavia. Main campus in Lund, but a number of departments of research and education in Malmö. The IDEON, one of largest science parks in Europe, is located close to the main campus. Also on campus is MAX-lab, a Swedish National Research Laboratory using syncotron radiation.

- **Academic Staff:** 2,650
- **Enrollment:** 31,000 (3,000 doctoral students)
- **Library:** 4,000,000 volumes
- **Organization:** Lund Institute of Technology (*Lunds Tekniska Högskola/LTH*); faculties of science (*matematisk-naturvetenskaplig*); law (*juridik*); social science (*samhällsvetenskap*); medicine (*medicin*); dentistry (*tandvårdshögskolan*); school of education (*lärarhögskolan*); liberal arts and theology (*humaniora och teologi*); college of music and drama (*musikhögskolan och teaterhögskolan*). Institutes for interdisciplinary research: The Work Science Center, The Environmental Studies Center, The Center for Surface and Colloid Science, The Center for North American Studies, The Institute of Economics Research, The Center for Women's Studies, The MAX Laboratory, The Lund Center for Habitat Studies, East and South-East Asian Studies, Middle East and North Africa Studies, and The Raul Wallenberg Institute of Human Rights and Humanitarian Law.

Credentials Awarded:

Ämneslärarexamen på (field) (Master of Arts in [field] Education) 40, 160, 180, 200, 220 points.

Arkitektexamen (Master of Architecture) 160, 180 points.

Bevis (Certificate) points vary.

Brandingenjörsexamen (University Certificate in Fire Protection Engineering) 100 points.

Civilingenjörsexamen på (field) (Master of Science in [field]) 160, 180 points.

Driftingenjörsexamen (Bachelor of Science in Control and Maintenance) 80 points.

Driftteknikerexamen (University Certificate in Control and Maintenance) 80 points.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 120, 140 points.

Filosofie Kandidatexamen (Bachelor of Arts/Social Science/Science in [field]) at least 120 points.

Filosofie Kandidatexamen (Master of Arts/Social Science/Science) at least 160 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Grundskollärarexamen (Bachelor of Education [Compulsory Comprehensive School]) grades 1-7, 140 points; grades 4-9, 40, 160, 180 points.

Högskoleexamen Avseende Påbyggnadsutbildning i (field) (University Diploma in [field]) 40 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80, 100 points.

Högskoleexamen i/på (field) (Bachelor of Arts/Fine Arts/Social Science/Science in [field]) at least 120 points.

Högskoleexamen i/på (field) (Master of Arts/Fine Arts/Social Science/Science [field]) at least 160 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80 points.

Läkarexamen (University Medical Degree) 220 points.

Logopedexamen (Bachelor of Science in Speech Pathology and Therapy) 120, 160 points.

Musiklärarexamen (Master of Fine Arts in Music Education) 160 points.

Psykoterapeutexamen (University Diploma in Psychotherapy) 60 points.

Sjukgymnastexamen (University Certificate in Physical Therapy) 100 points.

Socionomexamen (Bachelor of Science in Social Work) 140 points.

Specialpedagogexamen (Postgraduate Diploma in Special Education) 60 points.

Tandläkarexamen (University Dental Degree) 180 points.

Teologie Kandidatexamen (Bachelor of Divinity) 140 points; (Master of Divinity) 160 points.

Vårdlärarexamen (University Diploma in Nursing Education) 60 points beyond a nursing degree.

Credentials Awarded After July 1993:

Arkitektexamen (University Diploma in Architecture) 180 points, also Master of Architecture if degree includes 80 points in major subject.

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points.

Bevis (Certificate) points vary.

Brandingenjörsexamen (University Diploma in Fire Protection Engineering) 100 points.

Civilingenjörsexamen (University Diploma in Engineering [field]) 180 points, also Master of Science in Engineering if the degree includes 80 points in major subject.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1-7, 140 points; grades 4-9, 160 points.

Gymnasielärarexamen (University Diploma in Education for Upper Secondary School) 40, 180, 200, 220 points.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Juris Kandidatexamen (University Diploma in Laws) 180 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in major subject.

Konstnärlig Högskoleexamen i Musik (University Diploma in Music) at least 80 points.

Konstnärlig Högskoleexamen i Scen och Medier (University Diploma in Performing Arts and Media) at least 80 points.

Läkarexamen (University Diploma in Medicine) 220 points.

Logopedexamen (University Diploma in Speech Pathology and Therapy) 160 points.

Magisterexamen (Master of [field]) at least 160 points with 80 points in major subject.

Master of Science (awarded in English only) for students who have completed their first degree at a non-Swedish institution.

Musiklärarexamen (University Diploma in Music Education) 160 points.

Organistexamen (University Diploma in Church Music) 160 points.

Psykologexamen (University Diploma in Psychology) 200 points.

Psykoterapeutexamen (University Diploma in Psychotherapy) 60 points.

Sjukgymnastexamen (University Diploma in Physiotherapy) 120 points.

Socionomexamen (University Diploma in Social Work) 140 points.

Specialpedagogexamen (University Diploma in Special Education) 40 points.

Studie- och yrkesvägledarexamen (University Diploma in Career Counseling) 120 points.

Tandläkarexamen (University Diploma in Dentistry) 180 points.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) 60 points.

Advanced Degrees (no change after July 1993):

Doktorsexamen i Medicinsk Vetenskap (Doctor of Medical Science) 160 points beyond the first degree.

Doktorsexamen i Odontologisk Vetenskap (Doctor of Dental Science) 160 points beyond the first degree.

Ekonomie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Ekonomie Licentiatexamen (Licentiate in/of Business Administration and Economics) 80 points beyond the first degree.

Filosofie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Filosofie Licentiatexamen (Licentiate in/of Philosophy) 80 points beyond the first degree.

Juris Doktorsexamen (Doctor of Laws) 160 points beyond the first degree.

Juris Licentiatexamen (Licentiate in/of Laws) 80 points beyond the first degree.

Licentiatexamen i Medicinsk Vetenskap (Licentiate in/of Medical Science) 80 points beyond the first degree.

Licentiatexamen i Odontologisk Vetenskap (Licentiate in/of Dental Science) 80 points beyond the first degree.

Teknisk Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Teknisk Licentiatexamen (Licentiate of Engineering) 80 points beyond the first degree.

Teologie Doktorsexamen (Doctor of Theology) 160 points beyond the first degree.

Teologie Licentiatexamen (Licentiate in/of Theology) 80 points beyond the first degree.

- **Special Programs:** Approximately 200 courses are in English, spanning all the faculties, but largest number in engineering, science, and social science. Three international master's programs are offered in law, dentistry, science and technology policy, and history. Also offered is an International Environmental Summer program. In 1994 summer school began offering courses in technology, medicine, environment, and ecology. Also offers a 1-term course in Swedish Society in the European Context, open to students who have completed at least 1 year of university studies (see Chapter 8, "Internationalization and Study Abroad").

- **Internationalization:** Many exchange agreements throughout the world: COMETT, ERASMUS, NORDPLUS, and TEMPUS.
- **U.S. Exchanges:** University of California (exchange program since 1965, 40 students annually), University of Minnesota, University of Oklahoma, Kent State, Graduate School, City University, New York, The School of Management, University of Massachusetts, University of Rhode Island, and University of Central Florida.

***Mälardalens Högskola* (University College of Mälardalen), Box 883, S-721 23 Västerås, Sweden, Tel: 46 21 10 13 00, Fax: 46 21 10 13 20.**

Est. 1977 as the *Högskolan i Eskilstuna/Västerås* (University College of Eskilstuna/Västerås), 30 first degree programs in engineering, business administration and economics, and humanities. Västerås is administrative center of the institution but courses and programs are offered there and at Eskilstuna, Katrineholm, Ludvika, and Nyköping. Beginning July 1993 the institution's name was changed to *Mälardalens Högskola* (University College of Mälardalen). In 1994 the institution will add a college of nursing, and attached science park.

- **Academic Staff:** (1993) 190
- **Enrollment:** (1993) 4,500
- **Library:** (1993) 50,000 volumes
- **Organization:** Departments of business administration, economics and automatic data processing, energy technology, humanities, mechanical engineering, systems engineering and electrotechnology, and real-time computer systems.

Credentials Awarded:

Bevis (Certificate) points vary.

Driftteknikerexamen (University Certificate in Control and Maintenance) 80 points.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 140 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Fritidspedegogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 60, 80, 120 points.

Högskoleexamen i/på (field) (Bachelor of Science in [field]) at least 120 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80, 120 points.

Credentials Awarded After July 1993:

Bevis (Certificate) points vary.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 in the major subject.

Magisterexamen (Master of Arts/Social Science [field]) at least 160 points with 80 points in the major subject. After July 1993 the degree may be given in the area of English.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) 60 points.

- **Special programs:** The first 2 years of the Royal Institute of Technology's *civilingenjör* program may be completed at this institution.
- **Internationalization:** COMETT, ERASMUS, NORDPLUS, and TEMPUS.
- **U.S. Exchanges:** The University of Texas at Austin, University of Kentucky, Lexington, North Park College, Chicago.

***Mitthögskolan* (Mid Sweden University College), S-851 70 Sundsvall, Sweden, Tel: 46 60 18 86 00, Fax: 46 60 18 87 83.**

Est. 1977 as the *Högskolan i Sundsvall/-Härnösand* (University College of Sundsvall/-Härnösand), an integration of the Teacher Training Institute and the Institute of Navigation, both founded in the 1840s. Studies in three locations: Sundsvall, Härnösand, and Örnsköldsvik. As of July 1993 renamed the *Mitthögskolan* (Mid Sweden University), also incorporated the *Högskolan i Östersund* (University College of Östersund), which was founded in 1971 as a school of social studies, became a university college in 1977, active in distance (correspondence) education.

- **Academic Staff:** (1993) 322
- **Enrollment:** (1993) 7,200
- **Library:** 250,000 volumes
- **Organization:** Schools of culture and humanities (*kultur- och humaniora*), social science and behavioral science (*samhälls- och beteendevetenskap*), business administration and systems analysis, education (*lärarutbildning*), science and engineering (*teknisk*), and journalism and communication (*medie- och kommunikation*).

Credentials Awarded:

Bevis (Certificate) points vary.

Driftingenjörsexamen (Bachelor of Science in Control and Maintenance) 80 points.

Driftteknikerexamen (University Certificate in Control and Maintenance) 80 points.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 140 points.

Filosofie Kandidatexamen (Bachelor of Arts [field]) at least 120 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Förvaltningsexamen (Bachelor of Science in Public Administration) 140 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Grundskollärarexamen (Bachelor of Education (Compulsory Comprehensive School]) grades 1-7, 140 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 60, 80 points.

Högskoleexamen i/på (field) (Bachelor of Science/Arts [field]) at least 120 points.

Högskoleexamen i/på (field) (Master of Science in [field]) at least 160 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80 points.

Socionomexamen (Bachelor of Science in Social Work) 140 points.

Credentials Awarded After July 1993:

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points.

Bevis (Certificate) points vary.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1-7, 140 points.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in the major subject.

Magisterexamen (Master of [field]) at least 160 points with 80 points in major subject. As of July 1993 authorized to grant degrees in business economics, media and communication, psychology, social work, sociology, systems analysis, chemistry, and political science.

Socionomexamen (University Diploma in Social Work) 140 points.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) 60 points.

- **Special Programs:** Distance programs offered mainly for teachers, nearly 1,000 enrolled.
- **Internationalization:** COMETT, ERASMUS, and NORDPLUS.
- **U.S. Exchanges:** Augusta College, Georgia.

***Operahögskolan i Stockholm* (Stockholm University College of Opera), Strandvägen 82, S-115 27 Stockholm, Sweden, Tel: 46 8 14 47 85, Fax: 46 8 667 00 50.**

Est. 1772 as a school of Royal Opera in Stockholm, continued strong ties with Royal Opera and Royal University College of Music. In 1968 became independent college, only free-standing college for opera.

- **Academic Staff:** (1993) 8 fulltime/8 part-time
- **Enrollment:** (1993) 38
- **Library:** 1,000 volumes (mainly music scores)
- **Organization:** Areas of voice (*operasångarutbildning*), coaching (*operarepetitörutbildning*), directing (*opera-regiutbildning*).

Credentials Awarded:

Bevis (Certificate) points vary.

Högskoleexamen på Musikdramatiska linjen (Bachelor of Fine Arts in Opera) 140 points, formerly 120 points.

Credentials Awarded After July 1993:

Bevis (Certificate) points vary.

Konstnärlig Högskoleexamen i Scen och Medier (University Diploma in Performing Arts and Media) at least 80 points.

- **Internationalization:** ERASMUS and NORDPLUS.

***Stockholms Universitet* (Stockholm University), S-106 91 Stockholm, Sweden, Tel: 46 8 16 20 00, Fax: 46 8 15 36 93.**

Est. 1878 when lectures were given in physics and chemistry, known as College of Stockholm. In 1904 granted the right to award degrees. In 1960 became a state university, one of the largest in Sweden with some 90 departments offering courses and research.

- **Academic staff:** (1993) 3,000
- **Enrollment:** (1993) 30,000 fulltime/8,000 part-time (1,300 doctoral students)
- **Library:** 23,000,000 volumes (national depository of all Swedish publications)
- **Organization:** Faculties of humanities (*humanistiska*), law (*juridiska*), social science (*samhällsvetenskapliga*), and mathematics and natural sciences (*matematisk-naturvetenskapliga*). Center for Baltic Studies, Center for the Study of Child Culture, Center for Research in International Migration and Ethnic Relations, Center for Women's Studies, Center for Pacific Asian Studies, Center for Research on Bilingualism, Stockholm University Institute for English Speaking Students, Institute for Latin American Studies, Stockholm Center for Marine Research, Swedish Institute for Social Research, Unit for Sign Language Interpretation, Institute for Interpretation and Translation Studies, and the Wallenberg Laboratory at Stockholm University (Environmental Chemistry, Genetics, Biochemical Toxi., etc.).

Credentials Awarded:

Bevis (Certificate) points vary.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 120, 140 points.

Filosofie Kandidatexamen (Bachelor of Arts/Social Science/Science [field]) at least 120 points.

Filosofie Kandidatexamen (Master of Arts/Social Science/Science [field]) at least 160 points.

Förvaltningsexamen (Bachelor of Science in Public Administration) 140 points.

Högskoleexamen Avseende Grundläggande (field) (University Certificate in [field]) 80 points.

Högskoleexamen på Enstaka kurser med inriktning på (field) (Bachelor of Arts/Science/Social Science in [field]) at least 120 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80, 100 points.

Högskoleexamen i/på (field) (Bachelor of Arts/Social Science/Science [field]) at least 120 points.

Högskoleexamen i/på (field) (Master of Arts/Social Science/Science [field]) at least 160 points.

Juris Kandidatexamen (Master of Laws/LLM) 180 points.

Psykologexamen (Master of Science in Psychology) 200 points, 80 more points beyond first degree.

Samhällsplanerarexamen (Bachelor of Science in Urban and Regional Planning) 140 points.

Socionomexamen (Bachelor of Science in Social Work) 140 points.

Credentials Awarded After July 1993:

Bevis (Certificate) points vary.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Juris Kandidatexamen (University Diploma in Laws) 180 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in major subject.

Magisterexamen (Master of [field]) at least 160 points with 80 points in major subject.

Psykologexamen (University Diploma in Psychology) 200 points or 80 points beyond the first degree.

Socionomexamen (University Diploma in Social Work) 140 points.

Yrkesteknisk Högskoleexamen (University Diploma in Applied [field]) 60 points.

Advanced Degrees (no change after July 1993)

Ekonomie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Ekonomie Licentiatexamen (Licentiate in/of Business Administration and Economics) 80 points beyond the first degree.

Filosofie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Filosofie Licentiatexamen (Licentiate in/of Philosophy) 80 points beyond the first degree.

Juris Doktorsexamen (Doctor of Laws) 160 points beyond the first degree.

Juris Licentiatexamen (Licentiate in/of Laws) 80 points beyond the first degree.

- **Special Programs:** (see Chapter 8, "Internationalization and Study Abroad").
- **Internationalization:** Exchange agreements worldwide.
- **U.S. Exchanges:** University of Oklahoma and many departmental exchange programs.

***Sveriges Lantbruksuniversitet* (Swedish University of Agricultural Sciences/*SUAS*), S-750 07 Uppsala, Sweden, Tel: 46 18 67 10 00, Fax: 46 18 30 03 37.**

Est. 1977 with merger of the Colleges of Agriculture, Forestry and Veterinary Medicine, and School of Forest Engineers, with the Veterinary Institute in Skara, founded in 1775. Operates under Ministry of Agriculture, main campus located in Uppsala, with branches in Alnarp, Bispgården, Garpenberg, Jädraås, Lund, Röbäcksdalen, Skara, Skinnskatteberg, Stockholm, Svalöv, Umeå, and Värnamo. Conducts research projects in education and development, forestry, horticulture, aquaculture, landscape architecture, and veterinary medicine. Increasing emphasis placed on environmental studies.

- **Academic Staff:** (1993) 300
- **Enrollment:** (1993) 2,700 (700 doctoral students)
- **Library:** 583,800 volumes
- **Organization:** Three faculties: agriculture (*agronom*), incl. horticulture (*hortonom*) and landscape architecture (*landskapsarkitekt*); forestry (*jägmästare*); and veterinary medicine (*veterinär*).

Credentials Awarded:

Agronomexamen (Master of Science in Agriculture) 180, 200 points.

Bevis (Certificate) points vary.

Djursjukvårdarexamen (University Certificate in Veterinary Nursing) 40 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 40 points.

Hortonomexamen (Master of Science in Horticulture) 180, 200 points.

Jägmästarexamen (Master of Science in Forestry) 200 points.

Landskapsarkitektexamen (Master of Science in Landscape Architecture) 200 points.

Lantmästarexamen (University Certificate in Farm Management) 40 points.

Skogsmästarexamen (University Certificate in Forest Management) 80 points.

Skogsteknikerexamen (University Certificate in Forest Studies) 80 points.

Trädgårdsteknikerexamen (University Certificate in Park and Market Garden Management) 40 points.

Veterinärexamen (Master of Science in Veterinary Medicine) 220 points.

Credentials Awarded After July 1993:

Agronomexamen (University Diploma in Agriculture) 180 points.

Bevis (Certificate) points vary.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Hortonomexamen (University Diploma in Horticulture) 180 points.

Jägmästarexamen (University Diploma in Forestry) 200 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in major subject.

Landskapsarkitektexamen (University Diploma in Landscape Architecture) 200 points.

Landskapsingenjörsexamen (University Diploma in Landscape Construction and Management) 80 points.

Lantmästarexamen (University Diploma in Agricultural and Farm Management) 80 points.

Magisterexamen (Master of [field]) at least 160 points with 80 points in major subject.

Skogsmästarexamen (University Diploma in Forest Engineering) 40 points.

Skogsteknikerexamen (University Diploma in Forest Management) 80 points.

Trädgårdsingenjörsexamen (University Diploma in Horticultural Management) 80 points.

Veterinärexamen (University Diploma in Veterinary Medicine) 220 points.

Advanced Degrees (no change after July 1993):

Agronomie Doktorsexamen (Doctor of Agriculture) 160 points beyond the first degree.

Agronomie Licentiatexamen (Licentiate in/of Agriculture) 80 points beyond the first degree.

Doktorsexamen i Veterinärmedicin (Doctor of Veterinary Medicine) 160 points beyond the first degree.

Filosofie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Filosofie Licentiatexamen (Licentiate in/of Philosophy) 80 points beyond the first degree.

Licentiatexamen i Veterinärmedicin (Licentiate in/of Veterinary Medicine) 80 points beyond the first degree.

Skoglig Doktorsexamen (Doctor of Forestry) 160 points beyond the first degree.

Skoglig Licentiatexamen (Licentiate in/of Forestry) 80 points beyond the first degree.

Teknisk Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Teknisk Licentiatexamen (Licentiate in/of Engineering) 80 points beyond the first degree.

- **Special programs:** Short non-credit courses offered throughout the country.
- **Internationalization:** COMETT, ERASMUS, NORDPLUS, TEMPUS, and many exchanges with European universities.
- **U.S. Exchanges:** Cornell University, Purdue University, University of North Carolina at Raleigh, and Texas A&M.

***Teaterhögskolan i Stockholm* (Stockholm University College of Acting), Box 20044, S-104 60 Stockholm, Sweden, Tel: 46 8 641 21 60, Fax: 46 8 702 95 80.**

Training in elementary acting began at this institution established in 1787 as the school of Royal Dramatic Theater. In 1964 the teaching program was separated from the theater, and became an independent University College.

- **Academic Staff:** (1993) 16 full-/20 part-time
- **Enrollment:** (1993) 56 full-/100 part-time
- **Library:** 2,000 volumes
- **Organization:** No formal departments. Programs in acting, mime acting, sign-language acting, and continuation courses.

Credentials Awarded:

Bevis (Certificate) points vary.

Högskoleexamen i/på (field) (Bachelor of Fine Arts in [field]) at least 120 points.

Credentials Awarded After July 1993:

Bevis (Certificate) points vary.

Konstnärlig Högskoleexamen i Scen och Medier (University Diploma in Performing Arts and Media [field]) 120, 160 points.

***Universitetet i Göteborg* (University of Göteborg), Vasaparken, S-411 24 Göteborg, Sweden, Tel: 46 31 77 31 000, Fax: 46 31 77 34 660.**

Est. 1887 as *Göteborgs Högskola*, teaching seven subjects, all within the Arts Faculty. In 1907 was granted equal status with other state universities. In 1954 officially established as University of Göteborg with the merger of the *Göteborgs Högskola* and Göteborg Medical College. In 1971 the Göteborg School of Economics was merged with the University. In 1977 11 previously independent educational institutions incorporated into the University: School of Preschool Education, School of Home Economics Education, School of Journalism, College of Applied Arts, School of Education, College of Music, School of Social Work and Public Administration, College of Speech and Drama, School of Music Education, and Valand College of Arts. One of most extensive range of courses in Sweden; instruction in all subjects except engineering/technical fields.

- **Academic staff:** (1993) 1,350 and 700 researchers
- **Enrollment:** (1993) 20,100 with 2,600 doctoral students
- **Library:** 2,300,000 volumes
- **Organization:** Faculties of medicine (*medicinska*), odontology (*odontologiska*), humanities including fine arts (*humanistiska*), social sciences (*samhällsvetenskapliga*), mathematics, and natural sciences (*matematisk-naturvetens-kapliga*). Houses Center for Interdisciplinary Studies of the Human Condition and other similar.

Credentials Awarded:

Ämneslärarexamen på (field) (Master of Arts in [field] Education) 40, 160, 180, 200, 220 points.

Barnavårdslärarexamen (Bachelor of Science in Child Welfare Education) 120 points.

Bevis (Certificate) points vary.

Dietistexamen (Bachelor of Science in Dietetics) 120 points.

Filosofie Kandidatexamen (Bachelor of Arts [field]) at least 120 points.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 120, 140 points.

Ekonomexamen på Hotell och Restaurangekonomlinjen (Bachelor of Science in Business Administration and Economics-Hotel and Restaurant Administration) 140 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Förvaltningsexamen (Bachelor of Science in Public Administration) 140 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Grundskollärarexamen (Bachelor of Education (Compulsory Comprehensive School]) grades 1-7, 140 points; grades 4-9, 40, 160, 180 points.

Högskoleexamen Avseende Grundläggande (field) (University Certificate in [field]) 80 points.

Högskoleexamen Avseende Påbyggnadsutbildning i (field) (University Diploma in [field]) 40 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80, 100 points.

Högskoleexamen i/på (field) (Bachelor of Arts/Fine Arts/Science/Social Science) 120, 140 points.

Högskoleexamen i/på (field) (Master of Arts/Fine Arts/Science/Social Science in [field]) at least 160 points.

Hushållslärarexamen (Bachelor of Science in Home Economics Education) 120 points.

Internationell Ekonomexamen (Master of Science in Business Administration and Economics-International Business Program) 160 points.

Juris Kandidatexamen (Master of Laws [LLM]) 180 points.

Kostekonomexamen (Bachelor of Science in Catering) 120 points.

Läkarexamen (University Medical Degree) 220 points.

Logopedexamen (Bachelor of Science in Speech Pathology and Therapy) 120, 160 points.

Musiklärarexamen (Master of Fine Arts in Music Education) 160 points.

Psykologexamen (Master of Science in Psychology) 80, 200 points.

Socionomexamen (Bachelor of Science in Social Work) 140 points.

Specialpedagogexamen (Postgraduate Diploma in Special Education) 60 points.

Tandläkarexamen (University Dental Degree) 180 points.

Teologie Kandidatexamen (Bachelor of Divinity) 140 points; (Master of Divinity) 160 points.

Textillärarexamen (Bachelor of Arts in Textile Craft Education) 120 points.

Vårdlärarexamen (University Diploma in Nursing Education) 60 points beyond a nursing degree.

Credentials Awarded After July 1993:

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points.

Bevis (Certificate) points vary.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1-7, 140 points; grades 4-9, 40, 160, 180, 200 points.

Gymnasielärarexamen (University Diploma in Education for Upper Secondary School) 40, 160, 180, 200, 220 points.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Hushållslärarexamen (University Diploma in Home Economics Education) 120 points.

Juris Kandidatexamen (University Diploma in Laws) 180 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in the major subject.

Konstnärlig Högskoleexamen i Konst och Design (University Diploma in Fine Arts and Design) 170, 200 points.

Konstnärlig Högskoleexamen in Musik (University Diploma in Music) 160 points.

Konstnärlig Högskoleexamen i Scen och Medier (University Diploma in Performing Arts and Media) 140 points.

Läkarexamen (University Diploma in Medicine) 220 points.

Logopedexamen (University Diploma in Speech Pathology and Therapy) 120 points.

Magisterexamen (Master of [field]) at least 160 points with 80 points in the major subject.

Musiklärarexamen (University Diploma in Music Education) 160 points.

Organistexamen (University Diploma in Church Music) 160 points.

Psykologexamen (University Diploma in Psychology) 200 points.

Slöjdlärarexamen (University Diploma in Craft Education) 120 points.

Socionomexamen (University Diploma in Social Work) 140 points.

Tandläkarexamen (University Diploma in Dentistry) 180 points.

Teologie Kandidatexamen (University Diploma in Divinity) 140, 160 points.

Advanced Degrees (no change after July 1993):

Doktorsexamen i Medicinsk Vetenskap (Doctor of Medical Science) 160 points beyond the first degree.

Doktorsexamen i Odontologisk Vetenskap (Doctor of Dental Science) 160 points beyond the first degree.

Ekonomie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Ekonomie Licentiatexamen (Licentiate in/of Business Administration and Economics) 80 points beyond the first degree.

Filosofie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Filosofie Licentiatexamen (Licentiate in/of Philosophy) 80 points beyond the first degree.

Juris Licentiatexamen (Licentiate in/of Laws) 80 points beyond the first degree.

Licentiatexamen i Medicinsk Vetenskap (Licentiate in/of Medical Science) 80 points beyond the first degree.

Licentiatexamen i Odontologisk Vetenskap (Licentiate in/of Dental Science) 80 points beyond the first degree.

Teologie Doktorsexamen (Doctor of Theology) 160 points beyond the first degree.

Teologie Licentiatexamen (Licentiate in/of Theology) 80 points beyond the first degree.

- **Special Programs:** The Summer Academy is a series of 2-week courses offered at both the undergraduate and graduate levels, primarily for international students.
- **Internationalization:** Numerous exchange

agreements throughout the world.

- **U.S. Exchanges:** Concordia University, California (1989), University of North Florida (1990), University of North Texas (1975), University of Nebraska (1986), Appalachian State University (1989), New York University (1989), Rochester Institute of Technology (1986), The Julliard School (1987), Ohio State University (1982), and School of Visual Art, New York.

***Universitetet i Linköping* (University of Linköping), S-581 83 Linköping, Sweden, Tel: 46 13 28 10 00, Fax: 46 13 28 28 25.**

Est. 1969 with Faculty of Engineering, Faculty of Medicine. In 1970 merged with Faculty of Arts and Science, previously branch of Stockholm University, to become Linköping University College. Received university status in 1975, in 1977 the *Lärarhögskolan Linköping* (Teacher Training College) established middle of nineteenth century, was assimilated into the university. In 1980 the Department of Theme Research created, in 1986 Faculty of Health Sciences was established. Faculty of Engineering known as Linköping Institute of Technology. Computer Science Department is largest in Sweden. First to offer programs in Industrial Engineering and Management (1969). Some areas of study offered in Norrköping. Faculty of Health Sciences is cooperative venture between the University and Östergötland County Council. All medical degrees awarded by Faculty of Health Sciences in cooperation with the County Council.

- **Academic Staff:** (1993) 1,000
- **Enrollment:** (1993) 12,000 (800 doctoral)
- **Library:** 340,000 volumes
- **Organization:** Institute of Technology (*Tekniska Högskolan*), aka Faculty of Engineering; Faculty of Arts and Social Science (*Filosofiska Fakulteten*) includes interdisciplinary Institute of Theme Research, training doctoral students in five broad areas: Child Studies, Health and Society, Communication Studies, Water and Environmental Studies, Technology and Social Change; Faculty of Health Sciences (*Hälsouniversitetet*), and School of Education (*Lärarutbildning*). The University has numerous research centers: Center for Distance Education Technology (*U-Link*), Linköping Collaborating Center, Center for Industrial Information Technology, Center for Women's Studies, National Supercomputer Center, Forensic Science Center, Department of In-Service Education of School Staff, Industrial Liaison Office, Management Development Center, Center for Medical Technology Assessment, Center for Professional Development, Center for Industrial Microelectronics and Material Technology, Center for Industrial Technology and Work Organization. Some centers offer credit courses.

Credentials Awarded:

Ämneslärarexamen på (field) (Master of Arts in [field] Education) 160, 180, 200, 220 points.

Arbetsterapeutexamen (University Certificate in Occupational Therapy) 100 points.

Bevis (Certificate) points vary.

Civilingenjörsexamen på (field) (Master of Science in [field]) 160, 180 points.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 120, 140 points.

Filosofie Kandidatexamen (Bachelor of Arts/Science/Social Science in [field]) at least 120 points.

Folkhögskollärarexamen (University Diploma in Folk High School Education) 40 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Förvaltningsexamen (Bachelor of Science in Public Administration) 140 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Grundskollärarexamen (Bachelor of Education (Compulsory Comprehensive School]) grades 1-7, 100, 140 points; grades 4-9, 160, 180 points.

Högskoleexamen (University Certificate in [field]) 20, 40, 60, 80 points.

Högskoleexamen (Bachelor of Arts/Science/Social Science in [field]) at least 120 points.

Högskoleexamen Påbyggnadsutbildning i (field) (University Diploma in [field]) 40 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80 points.

Internationell Ekonomexamen (Bachelor of Science in Business Administration and Economics - International Business Program) 160 points.

Laboratorieassistentexamen (University Certificate in Medical Laboratory Technology) 90 points.

Läkarexamen (University Medical Degree) 220 points.

Sjukgymnastexamen (University Certificate in Physical Therapy) 100 points.

Sjuksköterskeexamen (field) (University Certificate in Nursing [field]) 80 points.

Slöjdlärarexamen (University Certificate in Craft Education) 40, 120 points.

Vårdlärarexamen (University Diploma in Nursing Education) 60 points beyond a nursing degree.

Credentials Awarded After July 1993:

Arbetsterapeutexamen (University Diploma in Occupational Therapy) 120 points.

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points.

Bevis (Certificate) points vary.

Civilingenjörsexamen (University Diploma in Engineering [field]) 180 points; also referred to as the Master of Science in Engineering if degree includes 80 points in major subject.

Folkhögskollärarexamen (University Diploma in Folk High School Education) 40 points.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1-7, 140 points; grades 4-9, 140, 180 points.

Gymnasielärarexamen (University Diploma in Education for Upper Secondary School) 40, 160, 180, 200, 220 points.

Högskoleexamen (Diploma in [field]) at least 80 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in major subject.

Läkarexamen (University Diploma in Medicine) 220 points.

Magisterexamen (Master of [field]) at least 160 points with 80 points in the major subject.

Sjukgymnastexamen (University Diploma in Physiotherapy) 120 points.

Sjuksköterskeexamen (University Diploma in Nursing) 120 points.

Slöjdlärarexamen (University Diploma in Craft Education) 120 points.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) 60 points.

Advanced Degrees (no change after July 1993):

Doktorsexamen i Medicinsk Vetenskap (Doctor of Medical Science) 160 points beyond the first degree. After July 1993 the program required completion of the *Medicin Doktorsexamen*.

Ekonomie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Ekonomie Licentiatexamen (Licentiate in/of Business Administration and Economics) 80 points beyond the first degree.

Filosofie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Filosofie Licentiatexamen (Licentiate in/of Philosophy) 80 points beyond the first degree.

Licentiatexamen i Medicinsk Vetenskap (Licentiate in/of Medical Science) 80 points beyond the first degree.

Teknisk Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Teknisk Licentiatexamen (Licentiate of Engineering) 80 points beyond the first degree.

- **Special Programs:** The Scandinavian Area Studies program offers 1-term courses in Swedish language, Scandinavian history, politics, and literature. There are also courses in many areas that are offered in English (see Chapter 8, "Internationalization and Study Abroad").
- **Internationalization:** COMETT, ERASMUS, NORDPLUS, NORDTEK, TEMPUS, and technical student program with CERN. A 180-point program in Industrial Engineering and Management is taught in conjunction with institutions in Germany, Japan, and France; also an 180-point program in International Business, including both practical experience and study abroad.
- **U.S. Exchanges:** University of Massachusetts, Amherst; University of Colorado, Boulder; University of Oregon; University of Wisconsin, Madison; University of Oklahoma; University of Washington; Pacific Lutheran University; Stanford University; Case Western Reserve University.

***Universitetet Umeå* (University of Umeå), S-901 87 Umeå, Sweden, Tel: 46 90 165000, Fax: 46 90 165488.**

Est. 1965, incorporating the Institute of Dentistry and the Institute of Medicine, to create a university in northern Sweden. This is the only university offering programs in public health and environmental protection, energy resources and use, and arts administration.

- **Academic Staff:** (1993) 1,640
- **Enrollment:** 11,000 (1,400 doctoral students)
- **Library:** 700,000 volumes
- **Organization:** Faculties of dentistry (*odontologiska*), medicine (*medicinsk*), engineering (*teknisk*), mathematics and natural sciences (*matematik och naturvetenskap*), social sciences (*samhällsvetenskap*), and humanities and education (*humaniora och lärarutbildning*).

Credentials Awarded:

Ämneslärarexamen (Master of Art/Science in [field]) 40, 160, 180, 200, 220 points.

Barnavårdslärarexamen (Bachelor of Science in Child Welfare Education) 120 points.

Bevis (Certificate) points vary.

Bildlärarexamen (Bachelor of Arts in Art Education) 120 points.

Civilingenjörsexamen på (field) (Master of Science in [field]) 160, 180 points.

Dietistexamen (Bachelor of Science in Dietetics) 120 points.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 120, 140 points.

Filosofie Kandidatexamen (Bachelor of Arts/Social Science/Science [field]) at least 120 points.

Filosofie Kandidatexamen (Master of Arts/Social Science/Science) requires at least 160 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Förvaltningsexamen (Bachelor of Science in Public Administration) 140 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Grundskollärarexamen (Bachelor of Education [Compulsory Comprehensive School]) grades 1-7, 140 points; grades 4-9, 40, 160, 180 points.

Högskoleexamen Avseende Grundläggande (field) (University Certificate in [field]) 80 points.

Högskoleexamen Avseende Påbyggnadsutbildning i (field) (University Diploma in [field]) 40 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80, 100 points.

Högskoleexamen i/på (field) (Bachelor of Arts/Social Science/Science [field]) requires at least 120 points.

Högskoleexamen i/på (field) (Master of Arts/Fine Arts/Social Science/Science) requires at least 160 points.

Hushållslärarexamen (Bachelor of Science in Home Economics Education) 120 points.

Ingenjörsexamen på [field]) (University Certificate in [field]) 80 points.

Internationell Ekonomexamen (Master of Science in Business Administration and Economics-International Business Program) 160 points.

Juris Kandidatexamen (Master of Laws [LLM]) 180 points.

Kostekonomexamen (Bachelor of Science in Catering) 120 points.

Läkarexamen (University Medical Degree) 220 points.

Psykologexamen (Master of Science in Psychology) 80, 200 points.

Psykoterapeutexamen (University Diploma in Psychotherapy) 30, 60 points.

Socionomexamen (Bachelor of Science in Social Work) 140 points.

Specialpedagogexamen (Postgraduate Diploma in Special Education) 60 points.

Tandläkarexamen (University Dental Degree) 180 points.

Textillärarexamen (Bachelor of Arts in Textile Craft Education) 120 points.

Vårdlärarexamen (University Diploma in Nursing Education) requires 60 points beyond a nursing degree.

Credentials Awarded After July 1993:

Barn- och ungdomspedagogiskexamen (University Diploma in Child and Youth Training) 120 points.

Bildlärarexamen (University Diploma in Art Education) 120 points.

Bevis (Certificate) points vary.

Civilingenjörsexamen (University Diploma in Engineering [field]) 180 points, but a Master of Science in Engineering if the degree includes 80 points in the major subject.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1-7, 140 points; grades 4-9, 160 points.

Gymnasielärarexamen (University Diploma in Education for Upper Secondary School) 40, 160, 180, 200, 220 points.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Hushållslärarexamen (University Diploma in Home Economics Education) 120 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points.

Juris Kandidatexamen (University Diploma in Laws) 180 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in major subject.

Konstnärlig Högskoleexamen i Konst och Design (University Diploma in Fine Arts and Design) 170, 200 points.

Läkarexamen (University Diploma in Medicine) 220 points.

Magisterexamen (Master of [field]) at least 160 points with 80 points in the major subject.

Psykologexamen (University Diploma in Psychology) 200 points.

Psykoterapeutexamen (University Diploma in Psychotherapy) 60 points beyond a degree in medicine, psychology, or social work.

Slöjdlärarexamen (University Diploma in Craft Education) 120 points.

Socionomexamen (University Diploma in Social Work) 140 points.

Studie- och yrkesvägledarexamen (University Diploma in Career Counseling) 120 points.

Tandläkarexamen (University Diploma in Dentistry) 180 points.

Advanced Degrees (no changes after July 1993):

Doktorsexamen i Medicinsk Vetenskap (Doctor of Medicine) 160 points.

Ekonomie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Ekonomie Licentiatexamen (Licentiate in/of Business Administration and Economics) 80 points beyond the first degree.

Filosofie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Filosofie Licentiatexamen (Licentiate in/of Philosophy) 80 points beyond the first degree.

Licentiatexamen i Medicinsk Vetenskap (Licentiate in/of Medicine) 80 points beyond the first degree.

- **Special Programs:** Short courses are offered in a special summer session held in June and August. The courses may be either degree courses or non-degree courses that give no points.
- **Internationalization:** ERASMUS and many international exchanges.
- **U.S. Exchanges:** University of Minnesota, Duluth.

***Uppsala Universitet* (Uppsala University), Box 256, S-751 05 Uppsala, Sweden, Tel: 46 18 18 25 00, Fax: 46 18 18 20 00.**

Est. 1477, oldest university in Scandinavia and a leading research university. Famous persons of earlier centuries such as Carl Von Linne (Linniaus), Anders Celsius, and Olof Rudbeck were professors here. Five Uppsala scientists have received Nobel prize. Sweden's only pharmaceutical faculty is located at Uppsala.

- **Academic staff:** 2,800
- **Enrollment:** 17,000/3,000 doctoral students

- **Library:** 450,000 volumes
- **Organization:** Faculties of theology (*teologiska*), law (*juridiska*), medicine (*medicinska*), pharmacy (*farmaceutiska*), arts (*humanistiska*), social sciences (*samhällsvetenskapliga*), and technology and natural sciences (*teknisknaturvetenskapliga*). Also a division for education and teaching (*lärarutbildning*). Facilities connected with the university include the Swedish Institute of International Law, the University Hospital, Ludwig Institute for Cancer Research, the Swedish Institute for North American Studies, the Institute of Dialect and Folklore Research, the Swedish Dialect Dictionary, the Institute of Place-Name Research, the Scandinavian Institute of African Studies, the Swedish Collegium for Advanced Studies in the Social Sciences, the Talloires Secretariat, the Institute of Space Physics, and the Svedberg Laboratory with the Celsius Ring.

Credentials Awarded:

Ämneslärarexamen på (field) (Master of Arts/Science in [field] Education) 160 points; (Master of Arts/Social Science/Science for Upper Secondary and Adult Education) 40, 160, 180, 200, 220 points.

Apotekarexamen (Master of Science in Pharmacy) 160, 200 points.

Barnavårdslärarexamen (Bachelor of Science in Child Welfare) 120 points.

Bevis (Certificate) points vary.

Civilingenjörsexamen på (field) (Master of Science in Engineering [field]) 160, 180 points.

Dietistexamen (Bachelor of Science in Dietetics) 120 points.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 120, 140 points.

Filosofie Kandidatexamen (Bachelor of Arts/Science/Social Science [field]) at least 120 points.

Filosofie Kandidatexamen (Master of Arts/Social Science/Science) at least 160 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Förvaltningsexamen (Bachelor of Science in Public Administration) 140 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Grundskollärarexamen (Bachelor of Education (Compulsory Comprehensive School]) grades 1-7, 140 points; grades 4-9, 40, 160, 180 points.

Högskoleexamen Avseende Grundläggande (field) (University Certificate in [field]) 80 points.

Högskoleexamen Avseende Påbyggnadsutbildning i (field) (University Diploma in [field]) 40 points.

Högskoleexamen i/på (field) (University Certificate in [field]) 40, 60, 80, 100 points.

Högskoleexamen i/på (field) (Bachelor of Arts/Social Science/Science [field]) at least 120 points.

Högskoleexamen i/på (field) (Master of Arts/Social Science/Science) at least 160 points.

Hushållslärarexamen (Bachelor of Science in Home Economics Education) 120 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 80 points.

Internationell Ekonomexamen (Master of Science in Business Administration and Economics - International Business Program) 160 points.

Juris Kandidatexamen (Master of Laws [LLM]) 180 points.

Kostekonomexamen (Bachelor of Science in Catering) 120 points.

Läkarexamen (University Medical Degree) 220 points.

Master of Arts/Social Science/Science, 60 points, for students with foreign secondary schooling and first degree, always awarded in English.

Psykologexamen (Master of Science in Psychology) 80, 200 points.

Receptarieexamen (University Certificate in Dispensing Pharmacy) 40, 80 points.

Slöjdlärarexamen (University Certificate in Craft Education) 120 points.

Teologie Kandidatexamen (Bachelor of Divinity) 140 points; (Master of Divinity) 160 points.

Textillärarexamen (Bachelor of Arts in Textile Craft Education) 120 points.

Toxikologexamen (Master of Science in Toxicology) 60 points beyond a first degree.

Vårdlärarexamen (University Diploma in Nursing Education) 60 points beyond a nursing degree.

Credentials Awarded After July 1993:

Apotekarexamen (University Diploma in Pharmacy) 200 points.

Barn- och ungdomspedagogiskexamen (University Diploma in Child and Youth Training) 120 points.

Bevis (Certificate) points vary.

Civilingenjörsexamen (University Diploma in Engineering [field]) 180 points, Master of Science in Engineering if the degree includes 80 points in major subject.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1-7, 140 points; grades 4-9, 160, 180 points.

Gymnasielärarexamen (University Diploma in Education for Upper Secondary School) 40, 180 pts.

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points.

Hushållslärarexamen (University Diploma in Home Economics Education) 120 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) 80 points

Juris Kandidatexamen (University Diploma in Laws) 180 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in major subject.

Läkarexamen (University Diploma in Medicine) 220 points.

Magisterexamen (Master of Science in Arts/Social Science/Science [field]) at least 160 points with 80 points in major subject.

Psykologexamen (University Diploma in Psychology) 200 points.

Receptarieexamen (University Diploma in Dispensing Pharmacy) 80 points.

Slöjdlärarexamen (University Diploma in Craft Education) 120 points.

Teologie Kandidatexamen (University Diploma in Divinity) 140, 160 points.

Advanced Degrees (no change after July 1993):

Doktorsexamen i Farmaceutisk Vetenskap (Doctor of Pharmaceutical Medicine) 160 points beyond the first degree.

Doktorsexamen i Medicinsk Vetenskap (Doctor of Medical Science) 160 points beyond the first degree.

Ekonomie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Ekonomie Licentiatexamen (Licentiate in/of Business Administration and Economics) 80 points beyond the first degree.

Filosofie Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Filosofie Licentiatexamen (Licentiate in/of Philosophy) 80 points beyond the first degree.

Juris Licentiatexamen (Licentiate in/of Laws) 80 points beyond the first degree.

Licentiatexamen i Farmaceutisk Vetenskap (Licentiate of Pharmaceutical Medicine) 80 points beyond the first degree.

Licentiatexamen i Medicinsk Vetenskap (Licentiate in/of Medical Science) 80 points beyond the first degree.

Teknisk Doktorsexamen (Doctor of Philosophy) 160 points beyond the first degree.

Teknisk Licentiatexamen (Licentiate of Engineering) 80 points beyond the first degree.

Teologie Licentiatexamen (Licentiate in/of Theology) 80 points beyond the first degree.

Teologie Doktorsexamen (Doctor of Theology) 160 points beyond the first degree.

- **Special Programs:** (see Chapter 8, "Internationalization and Study Abroad").
- **Internationalization:** Extensive international contacts in both research and education.
- **U.S. Exchanges:** Augustana College, Illinois; University of Colorado; Illinois State University; University of Miami; University of Oregon; Purdue University; University of South Florida; Ohio State University; California State University; Gustavus Adolphus College; University of Michigan; University of Houston; Southern Connecticut State University; the Lutheran School of Divinity, Chicago; and Uppsala College, New York.

Appendix B

Health College Institutional Profiles

***Blekinge Internationella Hälsohögskola* (International Health College of Blekinge) formerly *Vårdhögskolan i Karlskrona* (Karlskrona College of Health and Caring Sciences), S-371 85 Karlskrona, Sweden, Tel: 46 455 892 80, Fax: 46 455 893 77.**
Credentials awarded- University Diploma: midwifery, nursing, and social care. Diploma: medical laboratory science. Specializations after first degree in nursing: anesthetics, intensive care, midwifery, and public health; in social care: social care.

***Ersta Diakonisällskaps Sjuksköterskehögskola* (Ersta Diakonisällskap College of Health Sciences), Box 4619, S-116 91 Stockholm, Tel: 46 8 714 61 00, Fax: 46 8 714 93 27.**
Credentials awarded- University Diploma: midwifery and nursing.

***Hälsohögskolan i Jönköping* (Jönköping College of Health Sciences), Box 1038, S-551 11 Jönköping, Sweden, Tel: 46 36 10 48 00, Fax: 46 36 10 48 48.**
Credentials awarded- University Diploma: midwifery, nursing, occupational therapy, and social care. Diploma: orthopedic engineering and dental hygiene. Specialization after first degree is offered in a variety of subjects.

***Hälsohögskolan i Umeå* formerly *Vårdhögskolan i Umeå* (Umeå College of Health and Caring Sciences), Blå vägen 301, S-907 42 Umeå, Sweden, Tel: 46 90 15 86 00, Fax: 46 90 13 74 77.**
Credentials awarded- University Diploma: dental hygiene, nursing, occupational therapy, physiotherapy, and social care. Diploma: biomedical laboratory science. Specializations after first degree: biomedical laboratory science, nursing, occupational therapy, physical therapy, and social care.

***Hälsohögskolan i Värmland* (Värmland College of Health and Caring Sciences, Karlstad), Box 8, S-651 02 Karlstad, Sweden, Tel: 46 54 10 65 00, Fax: 46 54 18 37 45.**
Credentials awarded- University Diploma: dental hygiene, nursing, and social care. Diploma: biomedical laboratory science. Specializations after the first degree in nursing: anesthetics, intensive care, and public health/district nursing.

***Hälsouniversitetet* (Linköping Faculty of Health Sciences), S-581 05 Linköping, Sweden, Tel: 46 13 22 37 37, Fax: 46 13 10 44 95.**
Credentials awarded- University Diploma: medicine, nursing, occupational therapy, physiotherapy, and social care. Diploma: biomedical laboratory science. Specialization after first degree is offered in a variety of subjects.

***Kalmar Läns Vårdhögskola* (Kalmar College of Health Sciences), Ståthållaregatan 50, S-392 44 Kalmar, Sweden, Tel: 46 480 844 10, Fax: 46 480 844 03.**
Credentials awarded- University Diploma: nursing, social care, physiotherapy, and midwifery. Specializations after the first degree in nursing: anesthetics, intensive care, midwifery, operating room nursing, psychiatry, and public health; in social care: social care.

***Landstingets Högskola i Kristianstad* (Kristianstad College for Health Professions), Lasarettsboulevarden 18 A, S-291 33 Kristianstad, Sweden, Tel: 46 44 13 10 00, Fax: 46 44 13 28 30.**
Credentials awarded- University Diploma: social care (applied social studies), dental hygiene, and nursing. Specializations after the first degree in nursing: anesthetics and public health/district nursing.

***Röda Korsets Sjuksköterskeskola* (The Red Cross College of Nursing, Stockholm), Dalagatan 9-11, S-113 24 Stockholm, Sweden, Tel: 46 8 690 01 00, Fax: 46 8 690 01 90.**
Credentials awarded- Bachelor of Science: international nursing. Master of Science: nursing in co-operation with Cardiff University. University Diploma: nursing.

***Skaraborgs Vårdhögskola* (Skaraborgs College of Health Sciences, Skövde), Kärnsjukhuset, S-541 85 Skövde, Sweden, Tel: 46 500 43 19 20, Fax: 46 500 43 56 25.**
Credentials awarded- University Diploma: midwifery, nursing, and social care. Specializations after first degree in nursing: anesthetics, intensive care, pediatrics, and public health/district nursing.

***Sopiahemmets Sjuksköterskeskola* (Sopiahemmet College of Health Sciences), Box 5605, S-114 86 Stockholm, Sweden, Tel: 46 8 796 08 78, Fax: 46 8 10 29 09.**
Credentials awarded- University Diploma: midwifery and nursing.

Vårdhögskolan i Boden **(Boden College of Health and Caring Sciences), Hedenbrovägen, S-961 44 Boden, Sweden, Tel: 46 921 678 13, Fax: 46 921 678 50.**
Credentials awarded- University Diploma: nursing, occupational therapy, physiotherapy, and social care. Specializations after first degree in nursing: anesthetics, public health/district nursing, intensive care, pediatrics, psychiatry, and operating room nursing.

Vårdhögskolan i Bohuslän **(College of Health and Caring Sciences), Vintergatan 8, S-451 51 Uddevalla, Sweden, Tel: 46 522 929 00, Fax: 46 522 347 94.**
Credentials awarded- University Diploma: nursing and social care. Specialization after first degree in nursing: public health.

Vårdhögskolan i Borås **(Borås College of Health and Caring Sciences), Box 55140, S-500 05 Borås, Sweden, Tel: 46 33 16 16 00, Fax: 46 33 14 44 16.**
Credentials awarded- University Diploma: nursing and midwifery. Diploma: biomedical laboratory science. Specializations after first degree in nursing: anesthetics, intensive care, public health/district nursing, and midwifery.

Vårdhögskolan i Eskilstuna **(Eskilstuna College of Health Sciences), Drottninggatan 16, S-632 20 Eskilstuna, Sweden, Tel: 46 16 12 51 00, Fax: 46 16 14 18 32.**
Credentials awarded- University Diploma: nursing and social care. Specializations after first degree in nursing: anesthetics, intensive care, and public health.

Vårdhögskolan i Falun **(Falun College of Health Sciences), Box 741, S-791 29 Falun, Sweden, Tel: 46 23 860 00, Fax: 46 23 863 36.**
Credentials awarded- University Diploma: nursing, midwifery, social care, and dental hygiene. Specializations after first degree in nursing: anesthetics, intensive care, pediatrics, and public health/district nursing.

Vårdhögskolan i Gävle **(Gävle College of Health and Caring Sciences), Box 6160, S-800 06 Gävle, Sweden, Tel: 46 26 60 72 30, Fax: 46 26 65 14 50.**
Credentials awarded- University Diploma: nursing, social care, and dental hygiene. Specializations after first degree in nursing: intensive care and public health/district nursing.

Vårdhögskolan i Göteborg **(Göteborg College of Health Sciences), Box 19095, S-400 12 Göteborg, Sweden, Tel: 46 31 778 64 00, Fax: 46 31 16 72 52.**
Credentials awarded- Bachelor of Science: clinical diagnostic physiology and biomedical laboratory science. University Diploma: dental hygiene, nursing, occupational therapy, physiotherapy, and social care. Diploma: audio technology. Specialization after first degree in nursing is offered in a wide variety of subjects.

Vårdhögskolan i Halland **(Halland College of Health and Caring Sciences, Halmstad), Box 816, S-301 18 Halmstad, Sweden, Tel: 46 35 18 21 40, Fax: 46 35 18 21 41.**
Credentials awarded- University Diploma: dental hygiene and nursing. Specializations after first degree in nursing: anesthetics, intensive care, psychiatry, and public health/district nursing.

Vårdhögskolan i Lund/Helsingborg **(Lund-Helsingborg College for the Health Professions) formerly known as Skåne Colleges of Health incl. Malmö College of Health Sciences, Box 157, S-221 00 Lund, Sweden, Tel: 46 46 15 30 00 (Lund), Fax: 46 46 15 85 35.**
Credentials awarded- University Diploma: nursing and occupational therapy. Diploma: audio technology and biomedical laboratory science. Specializations after the first degree in nursing: anesthetics, midwifery, oncology, and public health/district nursing.

Vårdhögskolan i Malmö **(Malmö College of Health Sciences) formerly known as Skåne Colleges of Health that included Lund-Helsingborg College for Health Professions, Spårvägsgatan 9, S-214 27 Mälmö, Sweden, Tel: 46 40 34 10 00, Fax: 46 40 92 15 20.**
Credentials awarded- University Diploma: social care (applied social studies). Diploma: biomedical laboratory science. Specializations after first degree: anesthetics and public health/district nursing.

Vårdhögskolan i Örebro **(Örebro College of Health and Caring Sciences), Box 1323, S-701 13 Örebro, Sweden, Tel: 46 19 15 75 66, Fax: 46 19 32 23 52.**
Credentials awarded- University Diploma: dental hygiene, midwifery, nursing, occupational therapy, and social care. Diploma: audio technology and biomedical laboratory science. Specializations after first degree in nursing: anesthetics, diagnostics radiology, intensive care, oncology, operating room nursing, ophthalmology, psychiatry, and public health/district nursing.

Vårdhögskolan i Östersund **(Östersund College of Health and Caring Sciences), Box 356, S-831 25 Östersund, Sweden, Tel: 46 63 14 79 50, Fax: 46 63 14 79 54.**
Credentials awarded- University Diploma: nursing and social care. Specialization after the first degree is offered in a variety of subjects.

***Vårdhögskolan i Stockholm* (Stockholm College of Health and Caring Sciences), Box 9099, S-112 51 Stockholm, Sweden, Tel: 46 8 737 40 46.**
Credentials awarded- University Diploma: dental hygiene, midwifery, nursing, occupational therapy, and social care. Diploma: audio technology and biomedical laboratory science. Specializations after first degree in audio therapy: molecular biology and biotechnology; in nursing: anesthetics, intensive care, midwifery, oncology, operating room nursing, pediatrics, and public health/district nursing; in occupational therapy: primary health care; in orthoptics. Postgraduate education and research is carried out in cooperation with the Karolinska Institute and Stockholm University.

***Vårdhögskolan i Sundsvall/Örnsköldsvik* (Sundsvall/Örnsköldsvik College for the Health Professions), S-851 86 Sundsvall, Sweden, Tel: 46 60 18 27 00, Fax: 46 60 15 12 09.**
Credentials Awarded- University Diploma: midwifery, nursing, and social care. Diploma: biomedical laboratory science. Specializations after first degree in nursing: anesthetics, intensive care, midwifery, psychiatry, and public health/district nursing; and in social care.

***Vårdhögskolan i Uppsala* (Uppsala College of Health and Caring Sciences), Döbelnsgatan 2, S-752 37 Uppsala, Sweden, Tel: 46 18 17 66 10, Fax: 46 18 53 58 08.**
Credentials awarded- University Diploma: nursing and physiotherapy. Diploma: medical laboratory science. Specialization after the first degree in a variety of subjects.

***Vårdhögskolan i Vänersborg* (Vänersborg College of Health Sciences), Box 236, S-462 23 Vänersborg, Sweden, Tel: 46 521 27 50 00, Fax: 46 521 605 69.**
Credentials awarded- University Diploma: dental hygiene, nursing, and social care. Specializations after first degree in nursing: anesthetics, intensive care, and public health/district nursing.

***Vårdhögskolan i Västerås* (Västerås College of Health Sciences), S-721 89 Västerås, Sweden, Tel: 46 21 17 30 00, Fax: 46 21 17 49 16.**
Credentials awarded- University Diploma: midwifery and nursing. Specializations after first degree in nursing: anesthetics, intensive care, midwifery, pediatrics, and psychiatry.

***Vårdhögskolan i Växjö* (Växjö College for the Health Professions), Box 1210, S-351 12 Växjö, Sweden, Tel: 46 470 858 04, Fax: 46 470 398 58.**
Credentials awarded- University Diploma: nursing and social care. Specializations in nursing: anesthetics, care of the elderly, diagnostic radiology, intensive care, psychiatry, and surgical care; and in social care.

Appendix C

Tertiary Credentials

Credentials Awarded Prior to July 1993

Agronomexamen (Master of Science in Agriculture) 180, 200 points.

Ämneslärarexamen på (field) (Master of Arts/Science in [field] Education or Master of Arts/Science/Social Sciences for Upper Secondary and Adult Education) 40, 160, 180, 200, 220 points.

Apotekarexamen (Master of Science in Pharmacy) 160, 200 points.

Arbetsterapeutexamen (University Certificate in Occupational Therapy) 100 points.

Arkitektexamen (Master of Architecture) 160, 180 points.

Barnavårdslärarexamen (Bachelor of Science in Child Welfare Education) 120, 140 points.

Barnmorskeexamen (Bachelor of Science in Nursing [Midwifery]) 60 points beyond nursing degree.

Bergsingenjörsexamen (Master of Science in Geotechnology) 160, 180 points.

Bevis (Certificate) points vary.

Bildlärarexamen (Bachelor of Arts in Art Education) 120 points.

Brandingenjörsexamen (University Certificate in Fire Protection Engineering) 100 points.

Civilekonomexamen (Bachelor of Economics and Business Administration) 140 points; (Master of Economics and Business Administration) 160 points. Degree awarded at Stockholm School of Economics.

Civilingenjörsexamen på (field) (Master of Science in [field]) 160, 180 points.

Dietistexamen (Bachelor of Science in Dietetics) 120 points.

Djursjukvårdarexamen (University Certificate in Veterinary Nursing) 40 points.

Driftingenjörsexamen (Bachelor of Science in Control and Maintenance) 80 points.

Driftteknikerexamen (University Certificate in Control and Maintenance) 80 points.

Ekonomexamen (Bachelor of Science in Business Administration and Economics) 120, 140 points; (Master of Science in Business Administration and Economics) 160 points.

Filosofie Kandidatexamen (Bachelor of Arts/Science/Social Sciences [field]) at least 120 points.

Filosofie Kandidatexamen (Master of Arts/Social Sciences/Science) at least 160 points.

Flyglärarexamen (University Certificate for Flight Instructors) 40 points.

Folkhögskollärarexamen (University Diploma in Folk High School Education) 40 points.

Förskollärarexamen (University Certificate in Nursery and Infant Education) 50, 80, 100 points.

Förvaltningsexamen (Bachelor of Science in Public Administration) 120, 140 points; (Master of Science in Public Administration) 160 points.

Fritidspedagogexamen (University Certificate in Recreation and Leisure Education) 50, 80, 100 points.

Grundskollärarexamen (Bachelor of Education [Compulsory Comprehensive School]) for grades 1-7, 140 points; grades 4-9, 140, 160, 180 points.

Högskoleexamen i/avseende grundläggande (field) (University Certificate in [field]) 60, 80 points.

Högskoleexamen i/på (field) (University Certificate/Diploma in [field]) 40, 60, 80, 100, 120 points.

Högskoleexamen på Enstaka Kurser (Bachelor of Arts/Science/Social Sciences) at least 120 points with 60 points in the major subject, for single-subject courses.

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Högskoleexamen i/på (field) (Bachelor of Arts/Education/Fine Arts/Science/Social Sciences [field]) 40, 120 points.

Högskoleexamen i/på (field) (Master of Arts/Fine Arts/Science/Social Sciences [field]) 40, 60, 80, 160, 170, 200 points.

Högskoleexamen avseende/på Påbyggnadslinjen (field) (Postgraduate Diploma/Certificate in [field], Bachelor of Science [field], Master of Science [field], University [Supplementary] Diploma in [field]) points vary.

Hörselvårdsassistentexamen (University Certificate in Diagnostic Audiology, Audio Therapy) 80 pts.

Hortonomexamen (Master of Science in Horticulture) 180, 200 points.

Hushållslärarexamen (Bachelor of Science in Home Economics Education) 120 points.

Idrottslärarexamen (Bachelor of Education in Physical Education Teaching) 120 points.

Ingenjörsexamen på (field) (University Certificate in [field]) 40, 80 points.

Internationell Ekonomexamen (Master of Science in Business Administration and Economics-International Business Program) 160 points.

Jägmästarexamen (Master of Science in Forestry) 200 points.

Juris Kandidatexamen (Master of Laws [LLM]) 180 points.

Kostekonomexamen (Bachelor of Science in Catering) 120 points.

Laboratorieassistentexamen (University Certificate in Medical Laboratory Technology) 90 points.

Lågstadielärarexamen (University Certificate in Primary Education [Junior Level]) grades 1-3, 100 points. Last admission 1988; degree awarded until June 30, 1991.

Läkarexamen (University Medical Degree) 220 points.

Landskapsarkitektexamen (Master of Science in Landscape Architecture) 200 points.

Lantmästarexamen (University Certificate in Farm Management) 40 points.

Logopedexamen (Bachelor of Science in Speech Pathology and Therapy) 120, 140, 160 points.

Maskinteknikerexamen (University Certificate in Marine Engineering) 80 points.

Master of Arts/Science, 60 points, for students with a foreign first degree. Issued in English only.

Mellanstadielärarexamen (Bachelor of Education in Primary Education [Intermediate Level]) grades 4-6, 120 points. Last admission in 1988; degree awarded until December 31, 1990.

Musiklärarexamen (Master of Fine Arts in Music Education) 160 points.

Ortoptistexamen (University Diploma in Orthoptics) 40 points.

Psykologexamen (Master of Science in Psychology) 80, 200 points.

Psykoterapeutexamen (University Diploma in Psychotherapy) 60 points beyond a degree in medicine, psychology, social work, or equivalent.

Receptarieexamen (University Certificate in Dispensing Pharmacy) 40, 80 points.

Sjöingenjörsexamen (Bachelor of Science in Marine Engineering) 40 points beyond the *Maskinteknikerexamen* or equivalent; or 120 points.

Sjökaptensexamen (Bachelor of Science in Nautical Science) 40 points beyond the *Styrmansexamen*.

Sjukgymnastexamen (University Certificate in Physical Therapy) 100 points; (Bachelor of Science in Physical Therapy) 20 points beyond the first degree in the field.

Sjuksköterskeexamen (field) (University Certificate in Nursing [field]) 80, 100 points.

Skogsmästarexamen (University Certificate in Forest Management) 40 points beyond the *Skogsteknikerexamen*.

Skogsteknikerexamen (University Certificate in Forest Studies) 80 points.

Slöjdlärarexamen (University Certificate in Craft Education) 40, 120 points.

Social Examen (Bachelor of Science in Social Work) 160 points. Degree is awarded at the Sköndal Institute.

Socionomexamen (Bachelor of Science in Social Work) 140 points.

Specialpedagogexamen (Postgraduate Diploma in Special Education) 40, 60 points beyond the first teaching degree.

Styrmansexamen (University Certificate in Nautical Science) 80 points.

Tandhygienistexamen (University Certificate in Dental Hygiene) 40, 80 points.

Tandläkarexamen (University Dental Degree) 180 points.

Teologie Kandidatexamen (Bachelor of Divinity) 140 points; (Master of Divinity) 160 points.

Textillärarexamen (Bachelor of Arts in Textile Craft Education) 120 points.

Toxikologexamen (Master of Science in Toxicology) 60 points beyond a 120-point university degree.

Trädgårdsteknikerexamen (University Certificate in Park and Market Garden Management) 40 points.

Utbildningsbevis (Certificate) points vary.

Vårdlärarexamen (University Diploma in Nursing Education) 40, 60 points beyond the nursing degree.

Veterinärexamen (Master of Science in Veterinary Medicine) 220 points.

Credentials Awarded After July 1993

Agronomexamen (University Diploma in Agriculture) 180 points.

Apotekarexamen (University Diploma in Pharmacy) 200 points.

Arbetsterapeutexamen (University Diploma in Occupational Therapy) 120 points.

Arkitektexamen (University Diploma in Architecture) 180 points, may also be referred to as Master of Architecture if the degree includes 80 points in the major subject.

Barnmorskeexamen (University Diploma in Midwifery) 60 points beyond first degree in nursing.

Barn- och ungdomspedagogisk examen (University Diploma in Child and Youth Training) 120 points.

Bevis: kursbevis, examenbevis (Certificate) points vary. *Bevis* or *kursbevis* is awarded upon completion of course or short programs. The *exmanbevis* is awarded upon completion of degree requirements.

Bildlärarexamen (University Diploma in Art Education) 120 points.

Brandingenjörsexamen (University Diploma in Fire Protection Engineering) 100 points.

Civilekonomexamen (Master of Economics and Business Administration) 160 points. Offered at the Stockholm School of Economics.

Civilingenjörsexamen (University Diploma in Engineering [field]) 180 points, may also be referred to as Master of Science in (field) if the degree includes at least 60 points in the major subject area.

Ekonomie Kandidatexamen (Bachelor of Science in Business Administration and Economics) at least 120 points with 60 points in the major subject.

Ekonomie Magisterexamen (Master of Science in Business Administration and Economics) at least 160 points with 80 points in the major subject.

Farmacie Magisterexamen (Master of Science in Pharmacy) at least 160 points with 60 points in the major subject.

Filosofie Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in the major subject.

Filosofie Magisterexamen (Master of [field]) at least 160 points with 80 points in the major subject.

Flyglärarexamen (University Diploma in Aviation Education) 40 points.

Folkhögskollärarexamen (University Diploma in Folk High School Education) 40 points.

Grundskollärarexamen (University Diploma in Education for Primary and Secondary School) grades 1-7, 140 points; grades 4-9, 40, 160, and 180 points.

Gymnasielärarexamen (University Diploma in Education for Upper Secondary School) subject teacher 40, 180, 200, 220 points; nursing teacher or vocational teacher 40 points.

Högskoleexamen i/avseende grundläggande (field) (Diploma in [field]) 80 points

Högskoleexamen i/på (field) (Diploma in [field]) at least 80 points; (University Certificate in [field]) In medical fields, the number of points required vary.

Hortonomexamen (University Diploma in Horticulture) 180 points.

Hushållslärarexamen (University Diploma in Home Economics Education) 120 points.

Idrottslärarexamen (University Diploma in Physical Education) 120 points.

Ingenjörsexamen på (field) (University Diploma in Engineering/Lower Level [field]) requires at least 80 points.

Jägmästarexamen (University Diploma in Forestry) 200 points.

Juris Kandidatexamen (University Diploma in Laws) 180 points.

Kandidatexamen (Bachelor of [field]) at least 120 points with 60 points in the major subject area.

Konstnärlig Högskoleexamen i Dans (University Diploma in Dance) at least 80 points.

Konstnärlig Högskoleexamen i Konst och Design (University Diploma in Fine Arts and Design) at least 80 points.

Konstnärlig Högskoleexamen i Musik (University Diploma in Music) requires at least 80 points.

Konstnärlig Högskoleexamen i Scen och Medier (University Diploma in Performing Arts and Media) at least 80 points.

Läkarexamen (University Diploma in Medicine) 220 points.

Landskapsingenjörsexamen (University Diploma in Landscape Construction and Management) 80 points.

Landskapsarkitektexamen (University Diploma in Landscape Architecture) 200 points.

Lantmästarexamen (University Diploma in Agricultural and Rural Management) 80 points.

Logopedexamen (University Diploma in Speech Pathology and Therapy) 160 points.

Magisterexamen (Master of [field]) at least 160 points with 80 points in the major subject.

Maskinteknikerexamen (University Diploma in Marine Engineering/Lower Level) 80 points.

Master of Arts/Science, 60 points, for students with foreign first degrees. Issued in English only.

Musiklärarexamen (University Diploma in Music Education) 160 points.

Organistexamen (University Diploma in Church Music) 160 points.

Politices Kandidatexamen (Bachelor of Public Administration) at least 120, 140 points with 60 points in the major subject.

Politices Magisterexamen (Master of Public Administration) at least 160 points with 80 points in the major subject.

Psykologexamen (University Diploma in Psychology) 200 points.

Psykoterapeutexamen (University Diploma in Psychotherapy) 60 points beyond degree in medicine, psychology, social work, or equivalent.

Receptarieexamen (University Diploma in Dispensing Pharmacy) 40, 80 points.

Sjöingenjörsexamen (University Diploma in Marine Engineering) 40 points beyond the ***Maskinteknikerexamen*** or equivalent; 120 points.

Sjökaptensexamen (University Diploma in Nautical Science/Master Mariner Level) 40 points beyond the ***Styrmansexamen***.

Sjukgymnastexamen (University Diploma in Physiotherapy) 120 points.

Sjuksköterskeexamen (University Diploma in Nursing) 120 points.

Skogsmästarexamen (University Diploma in Forest Engineering) 40 points beyond the *Skogsteknikerexamen*.

Skogsteknikerexamen (University Diploma in Forest Management) 80 points.

Slöjdlärarexamen (University Diploma in Craft Education) 120 points.

Social Omsorgsexamen (University Diploma in Social Care) 100, 120 points.

Socionomexamen (University Diploma in Social Work) 140, 160 points.

Specialpedagogexamen (University Diploma in Special Education) 40 points beyond first teaching degree.

Studie- och Yrkesvägledarexamen (University Diploma in Career Counseling) 120 points.

Styrmansexamen (University Diploma in Nautical Science/Mate Level) 80 points.

Tandhygienistexamen (University Diploma in Dental Hygiene) 80 points.

Tandläkarexamen (University Diploma in Dentistry) 180 points.

Teknologie Kandidatexamen (Bachelor of Science in [field]) at least 120 points with 60 points in the major subject.

Teknologie Magisterexamen (Master of Science in [field]) at least 160 points with 80 points in the major subject.

Teologie Kandidatexamen (University Diploma in Divinity) 140, 160 points.

Trädgårdsingenjörsexamen (University Diploma in Horticultural Management) 80 points.

Veterinärexamen (University Diploma in Veterinary Medicine [DVM]) 220 points.

Yrkesteknisk Högskoleexamen (field) (University Diploma in Applied [field]) 60 points.

Advanced Degrees (no change after July 1993)

Agronomie Doktorsexamen (Doctor of Agriculture) 160 points beyond the *Agronomexamen*.

Agronomie Licentiatexamen (Licentiate in/of Agriculture) 80 point beyond the *Agronomexamen*.

Doktorsexamen i Farmaceutisk Vetenskap (Doctor of Pharmaceutical Science) 160 points.

Doktorsexamen i Medicinsk Vetenskap (Doctor of Medical Science) 160 points.

Doktorsexamen i Odontologi/Odontologisk Vetenskap (Doctor of Odontology/Dental Science) 160 pts.

Doktorsexamen i Veterinärmedicin (Doctor of Veterinary Medicine) 160 points beyond the *Veterinärexamen*.

Ekonomie Doktorsexamen (Doctor of Philosophy) 160 points.

Ekonomie Licentiatexamen (Licentiate in/of Business Administration and Economics) 80 points.

Filosofie Doktorsexamen (Doctor of Philosophy) 160 points.

Filosofie Licentiatexamen (Licentiate in/of Philosophy) 80 points.

Juris Licentiatexamen (Licentiate in/of Laws) 80 points.

Juridisk Doktorsexamen (Doctor of Laws) 160 points.

Licentiatexamen i Farmaceutisk Vetenskap (Licentiate in/of Pharmaceutical Science) 80 points.

Licentiatexamen i Medicinsk Vetenskap (Licentiate in/of Medical Science) 80 points.

Licentiatexamen i Folkhälsovetenskap (Master in/of Public Health) 80 points beyond a 120-point university degree.

Licentiatexamen i Odontology/Odontologisk Vetenskap (Licentiate in/of Odontology/Dental Science) 80 points.

Licentiatexamen i Veterinärmedicin (Licentiate in/of Veterinary Medicine) 80 points beyond the *Veterinärexamen*.

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Skoglig Doktorsexamen (Doctor of Forestry) 160 points beyond the *Jägmästarexamen*.

Skoglig Licentiatexamen (Licentiate in/of Forestry) 80 points beyond the *Jägmästarexamen*.

Teknisk Doktorsexamen (Doctor of Philosophy) 160 points.

Teknisk Licentiatexamen (Licentiate in/of Engineering) 80 points.

Teologie Doktorsexamen (Doctor of Theology) 160 points.

Teologie Licentiatexamen (Licentiate in/of Theology) 80 points.

Swedish National Agencies

The National Agency for Higher Education (*Verket för Högskoleservice/VHS*), Birgerjarlsgatan 43, Stockholm, Box 7851, S-103 99 Stockholm. Tel: 46 8 453 50 00, Fax: 46 8 453 51 40.

The National Agency for Higher Education is successor to the National Board of Universities and Colleges, it is mainly financed by the Ministry of Education, and serves universities and higher education in Sweden. The agency's five departments are: Student Affairs, International Affairs, Information and Statistics, Purchasing, and Legal Advisory. There is also a Division of Finance and Internal Services. The Student Affairs Department serves as the admissions office for applicants to full programs in most tertiary institutions (see Chapter 4, Admission). International Affairs includes the National Academic Recognition Information Center/NARIC and an international programs office, which handles requests for recognition of academic credentials from individuals, employers, universities, and colleges. The office also offers information to Swedish students about study abroad programs.

The Swedish Institute (*Sverigehuset, Hamngatan, Stockholm*), Box 7434, S-103 91 Stockholm. Tel: 46 8 789 20 00, Fax: 46 8 20 72 48.

The Swedish Institute disseminates knowledge abroad about Swedish society and culture by means of informational activities; promotes cultural, professional, educational, and scholarly exchange between Sweden and other countries; supports the teaching of Swedish as a foreign language; and is responsible for the operations of the Swedish Cultural Center in Paris. The agency, which is under the Ministry of Foreign Affairs, publishes a wide range of informational material, including fact sheets, articles on current topics, booklets, etc. The Institute answers inquiries from abroad about Swedish society and cultural life and assists specialists from other countries by arranging study visits to Sweden. The Institute organizes and/or provides financial support for seminars and courses both in Sweden and abroad that contribute to the exchange of professional knowledge between Swedish and foreign experts; promotes Swedish documentary films; and awards scholarships and grants for short- or long-term study and research visits to Sweden or abroad. Formerly operated the National Academic Mobility Information Center/NAMIC, which had provided information on education and research to foreigners and Swedes.

Office of the University Chancellor (*Kanslersämbetete*), Birgerjarlsgatan 37, S-103 99 Stockholm.

The Chancellor's Office was established in 1992 by the government to assist in the implementation of the new educational directives put in place in 1993. This office determines which national evaluations will be implemented, commissions the evaluations, and summarizes and publishes the results. It also stimulates universities and colleges to do their own evaluations, and judges the quality assurance of the systems developed. The Chancellor's office also follows up measures taken as a consequence of evaluation, defines and develops various methods for evaluation, takes part in the development of quality indicators to be used as a basis for funding, and tests the examination standards at different levels. New master level programs to be offered at University Colleges are reviewed by the Chancellor's Office and forwarded to the government for final approval.

The Swedish Information Service, One Dag Hammarskjöld Plaza, New York, NY 10017-2201, Tel: (212) 751-5900, Fax: (212) 752-4789.

The Information Service is a part of the Swedish Consulate that provides information concerning education and employment in Sweden. It publishes a wide variety of pamphlets on different aspects of the economy, educational system, and employment.

Appendix E

National Council on the Evaluation of Foreign Educational Credentials, and the Placement Recommendations in This Full Country Study

The placement recommendations published in this PIER full country study have been approved by the National Council on the Evaluation of Foreign Educational Credentials (the Council) in consultation with the authors. The Council was established to provide guidance concerning foreign educational credentials to U.S. institutions of higher education. It is the only inter-associational body in the United States specifically organized to perform this role.

The membership of the Council reflects the diversity of U.S. educational institutions for which placement recommendations are made. The member organizations are the American Association of Community Colleges (AACC), the American Association of Collegiate Registrars and Admissions Officers (AACRAO), the American Council on Education (ACE), The College Board, the Council of Graduate Schools (CGS), the Institute of International Education (IIE), and NAFSA: Association of International Educators. Observers from U.S. organizations interested in international education include the United States Information Agency (USIA), the Agency for International Development (AACRAO-AID), and the New York State Education Department.

Their representatives for 1993-1994 are listed below. See page 106 for a description of the Council's role, and a guide to the understanding of its placement recommendations for this volume.

Members of the National Council on the Evaluation of Foreign Educational Credentials:

Chair: Karen Lukas, Assistant Director of Admissions, University of Minnesota-Twin Cities, Minneapolis, MN (AACRAO)

Past Chair: Caroline Aldrich-Langen, Associate Director, Admissions and Records, California State University-Chico, Chico, CA (AACRAO)

AACC-James Mahoney, Director, Administration, AACC, Washington, DC
AACRAO-William H. Smart, Director of Sponsored Student Programs, International Education, Oregon State University, Corvallis, OR (Chair of PIER)
ACE-Barbara Turlington, Director, International Education, ACE, Washington, DC
The College Board-Marcelle Heerschap, Director, Office of Admissions, The American University, Washington, DC
CGS-James Siddens, Assistant Dean, Graduate School, Ohio State University, Columbus, OH
IIE-Nicole Morgenstern, Director, Placement and Special Services Division, IIE, New York, NY
NAFSA-Margarita Sianou, World Education Services, Inc., New York, NY; Ellen Silverman, University Admissions Processing Center/CUNY, Brooklyn, NY; Robert Watkins, Assistant Director of Admissions, University of Texas at Austin, Austin, TX

Representatives from Observer Organizations:

AACRAO-AID-Dale Gough, Director, AACRAO-AID/Office of International Education Services, Washington, DC
NY State Education Department-Susan Fuller, Credentials Assessment, State Education Department, Albany, NY

Glossary of Swedish Terms

Note: Alphabetization is without regard to diacritical marks.

A

adjunkt. teacher at the senior level
administrativ. administrative
agronom. agronomist
akademiker. graduate
åldersgräns. age limit
allmän behörighet. general eligibility
allmän kurs. general course
allmänbildande. general education
allmänpraktiska medie. media studies
amanuens. assistant lecturer, assistant
ämneslärare. subject teacher
analfabet. illiterate
anläggning. construction
anlagstest. aptitude test
anmärkningar. teacher's comments
anpassad studiegång. adjusted study program
ansökan. application
ansökningsavgift. application fee
antal lärotimmar i veckan (medeltal). average hours of instruction per week
antagning. admission
antagningskrav. admission requirement
antagningsprov. admission test
apotekare. pharmacist
år/årig. year
årskurs. grade
arbetslivserfarenhet. work experience
arbetslivsfrågor. labor relations
arbetslivsorientering. working life orientation, guidance period
Arbetsmarknadsstyrelsen. Labor Market Board
arbetsplan. work plan
arbetsplatsförlagd utbildning. workplace training
arbetsterapeut. occupational therapy
arkitekt. architect
återkommande utbildning. recurrent education
avdelning. section, division
avgångsbetyg. leaving certificate
avgift. fee
avhandling. thesis/dissertation
avhoppare. drop-out
avlägga examen. graduate, take a degree
avskilja. suspend
avskrift. transcript
avsluta. complete
avstänga. suspend

B

B-språk. second foreign language
bageri och konditori. bakery and confectionery
barn. child/children
barnavårdslärarlinje. child welfare line
barnmorska. midwife
barnomsorg. day/child care
barnstuga. children's center
basämne. basic subject
bedömning. assessment
behörig om lärare. certified, qualified
behörig om myndighet. competent
behörig om studerande. eligible
behörighet. eligibility
beklädnadsteknisk. clothing manufacturing
bemyndigande. authorization
bergsingenjör. mining/metallurgy engineer
berömlig. excellent, with distinction
beteendevetenskap. behavior sciences
betyg ämne/slutbetyg. mark (grade)/certificate
betyg över avlagd. leaving certificate
betygsdokument. report card/transcript
betygssättning. marking/grading
betygsskala. marking/grading scale
bevis. certificate/transcript
bibliotek. library
bibliotekarie. librarian
bild. art/picture
brandingenjör. fire protection engineer
brevskola. correspondence school run by a cooperative movement
byggnad. building, construction

C

C-språk. third foreign language

central prov. national achievement test for upper secondary school

civiljägmästare. forester

civilingenjör. engineer, highest level

D

daghem (dagis). day nursery

datateknik. computer engineering

datatekniker/ingenjör. computer technician/engineer

datakunskap/datavetenskap. computer science

delkurs. sub-course

delrapport. progress report

deltagande. participation/attendance

deltidstudier. part-time study

diagnostiskt prov. diagnostic test

didaktik. didactics

dirigering. conducting

dispens. exemption

disputation. public defense of dissertation

distansutbildning. distance study/correspondence

djursjukvårde. animal nurse

docent. senior lecturer

dokterand. doctoral student

dokumentalist. document librarian

drift- och underhållsteknik. control (operations) and maintenance

E

eftergymnasial. postsecondary

efterobligatorisk. postcompulsory

ekvivalering. credential evaluation, equivalence

ekonomiutbildning. business administration

elev. pupil

el. electrical

enhet. unit

enhetsskola. common school for grades 1-9 during 1960s, later referred to as compulsory school

enstaka kurser. single-subject university courses

erkännande. recognition/acknowledgment

estetiskt-praktiskt ämne. artistic and practical subject

examen. degree

examensbevis. degree certificate, diploma, certification

examensnämnd. board of examiners

examensordning. degree system

examination. examination

examinerad. graduate

F

fackhögskola. former specialized higher education institution

fackskola. continuation school established in 1964 and merged into the integrated upper secondary school in 1971

fakultet. faculty

fårdighet. skill, proficiency

ferie. holiday

filosofi. philosophy

fiskevård. fishing science and management

flickskola. private community school for girls that later became part of the comprehensive school system

flyglärar. aviation education

flygunderhål. aircraft engineering and maintenance

folkbildning. adult education

folkbokförd. registered

folkhälsoarbete. public health work

folkhögskolor. folk high school

folkhögskollärarlinje. folk high school teacher education

folkskola. primary school

folkskoleseminarium. teacher training program for folk schools

förberedande. preparatory

fordon. vehicle

föreläsningar. lectures

fördjupade studier. in-depth study

föreläsning. lecture

företagsekonomi. business economy

förkunskapskrav. entrance qualifications

formell behörighet. formal eligibility/competence/qualification

formgivning. design

forskarassistent. research assistant

forskarutbildning. graduate study

forskning (grund/tillämpad). research (basic/applied)

förskola. preschool, nursery school

fortbildning. continuing education courses
fortlöpande utvärdering. continuous assessment
fortsättningskurs. continuation course
förvaltning. public administration
Franska. French
frånvaro. absence
fria aktiviteter. extra-curricular activities
fri konst. fine arts
fristående kurs. separate/single-subject university course
fristående skola. private/independent school
fristående universitet/högskola. independent university/university college
fritidshem. after school center
fritidspedagog. recreation, leisuretime teacher
frivillig. voluntary, optional
frivilliga skolan. noncompulsory school, post-compulsory school
fullfölja. complete
fullständig. complete, full standing
fyllnadsprövning. supplementary examination

G

gå om (en årskurs). retake a year
garantitid. minimum instruction time
gäststuderande. visiting student, foreign student
gemensamma obligatoriska ämnen. common core curriculum
genomsnitt. average
godkänd. pass
godkännande. approval, acceptance
graderad betygsskala. graded marking scale
gren. branch
grund. basic
grundläggande högskoleutbildning. undergraduate education
grundläggande vuxenutbildning. basic adult education
grundskolan. compulsory school
grundskolekompetens. compulsory school leaving certificate
grundskolenivå. compulsory school level
grundskollärare (tidigare/senare). compulsory school teacher (grades 1-7/4-9)
grundutbildning. basic education
gymnasial vuxenutbildning. former upper secondary adult education
gymnasieingenjör. certified upper secondary school engineer
gymnasiekompetens. upper secondary school leaving certificate
gymnasieskolan. upper secondary school
gymnasium. classical upper secondary school, incorporated into the *Gymnasieskola* in 1971

H

hälsa. health
hälso och sjukvårds. nursing (general)
handel. business
handelsgymnasium. commercial gymnasium
handelshögskola. university college for business administration and economics
handledd praktik. supervised training/practice
hantverk. handicrafts
helårsprestation. annual performance
heltidsstudier. fulltime study
hemkunskap. home economics
hemspråkslärare. immigrant languages education
hemställan. request
högpresterande. above average
högre flickskola. municipal general secondary school for girls
högre folkskola. lower general secondary schools
Högre Tekniska Läroverk. technical school
högre utbildning. higher education
högskola. university college, higher education
högskoleadjunkt. lecturer
högskoleexaminerad. graduate
högskolelektor. senior lecturer
högskolår. academic year
högskoleprov. university aptitude test
högstadiet. higher compulsory, grades 7-9
hörselvård. audiology/audio therapy
hortonom. horticulture
höst. autumn
hus- och anläggningsbyggnad. building and construction
hushållslärare. home economics teacher

I

icke godkänd. failed
idrottslärare/tränare. physical ed. teacher/trainer

ingenjör. title received from technical gymnasium and later from tertiary education
ingenjörsexamen. lower engineering degree from technical gymnasium and later from tertiary programs
innehåll. content
inriktning. focus, emphasis, orientation
inskolning. preparatory training for school, initial training
inskrivning. enrollment/registered
intagning. admission, intake
internatskola. boarding/residential school
internutbildning. in-service training, on-the-job training
inträdeskrav. entrance/admission requirement
intyg. certificate
invandrare. immigrant

J

jägmästare. forester
jämförbarhet. comparability
jämlikhet. equality
jordbruk. agriculture, farming
juridik. law
jurist. lawyer

K

karosseri. coachwork
kemi. chemistry
kinesiska. Chinese
kommunal vuxenutbildning/komvux. municipal adult education
kommunala flickskola. former girls' municipal middle school
kommunala mellanskola. former municipal middle school
kompetensbevis. certificate of competence
kompetensnivå. competence level
kompletteringskurs. supplementary/make-up course
koncentrationsläsning. intensive study
konfessionell skola. denominational school
kondurrens. competition
konst. art
konsthantverk. applied arts and crafts
konsthögskola. professional training school of fine arts
konstskola. art school
kontor. office/clerical
kontorskunskap. office science/skills
korrespondensundervisning. correspondence study
kostekonomi. catering
kostterapi. dietetics
kött och charkuteri. fresh and cured meats
kultur. culture
kunskaper och färdigheter. knowledge and skills
kunskapsinnehåll. academic content
kurs. course
kursbetyg. mark
kursplan. syllabus
kvällsgymnasium. evening school
kvot. quota
kyrkomusiker. church music

L

laborationer. laboratory work
lågpresterande. below average
lägre tekniska läroanstalter. former technical lower secondary
lågstadielärare. teacher at the primary junior level
lågstadiet. junior compulsory, grades 1-3
läkare. doctor, physician
lämplighet. qualification
län. county
lantbruk. agriculture
landskapsarkitekt. landscape architect
lantmästare. farm management
lärande. learning
lärare. school teacher
lärarinna. school teacher
lärarhögskola. teacher training institute/college between 1956 and 1968
lärarutbildning. teacher training/education
lärling. apprentice
läroämne. subject
läroplan. curriculum
läroverk. secondary academic school combining *realskola* and the gymnasium; phased out in early 1970s
läsår. academic year
latinlinje. Latin line in upper secondary school, phased out

lekskola. preschool
lektion. lesson
lektionsundervisning. classwork
lektor. upper secondary teacher
likvärdig. equivalent
litteraturlista. reading list
livslångt lärande. life-long learning, continuing education
livsmedelsteknisk. food preparation
logoped. speech pathology/therapy

M

mål. goal, objective
måleri. painting
mångsidig. comprehensive
marknadsföring. marketing
maskintekniker/ingenjör. marine technician/mechanical engineer (lower level)
mellanstadielärare. teacher at the middle level
mellanstadiet. middle compulsory, grades 4-6
meritvärde. qualification, merit rating
miljöundervisning. environmental studies
musikhögskolan. music university college

N

närvaro. attendance
nationella prov. national tests
naturbruk. land and animal husbandry (ecological)
naturkunskap. natural sciences
numerus clausus (Latin). limited admission to program
nybörjare. beginner
nybörjarundervisning. course for beginners

O

obehörig lärare/studerande. unqualified, non-certified teacher, ineligible student
obligatorisk. compulsory
obligatoriska skolan. compulsory school
offentlig. national/public school system
oförmåga. inability
ögonsjukvård. ophthalmic care
omfattande. comprehensive
omskolning. retraining
omvärdsorientering. contemporary social and environmental studies
omvårdnad. nursing/health care
onkologi. oncology
orienteringsämne. general subject
ortopedteknisk. prosthetics/orthotics
övergripande. comprehensive
övningar. practical work/tutorials
övningslärare. practical subjects teacher

P

påbyggnadslinje. supplementary/advanced professional course program
pappers och pappersmasseindustri. paper & pulp industry
personal och arbetslivsfrågor. personnel management
poäng. points
praktisk realexamen. practical final examination
praktiska mellanskolor. former practical middle school
praktical realexamen. practical exam in lower secondary school
prao. practical working life orientation
privatläroverk. private secondary school
privatist. student taking special exams; not enrolled in school
profilskola. specialized school
prov. test

R

rätt. law
ragnar. resourceful
realexamen. lower secondary school leaving certificate
reallinje. former sciences line in upper secondary school
realskola. former lower secondary school
receptarie. pharmaceutical technician, prescriptionist, dispenser
redovisning. accounting
register. index
rehabiliteringslinje. occupational therapy program

reklam. advertising
rektor. head of tertiary level institution
revision. auditing
riksdag. legislature
rörelsehindrad. physically handicapped
rymdingenjörslinje. space technology program
ryska. Russian

S

sameskola. Samic school
samhällsbyggnadsteknik. environmental planning and design
samhällskunskap. social studies/political science
samhällsplanerarlinjen. urban and regional planning
samhällsvetenskap. social sciences
särskild behörighet. specific eligibility
särskild prövning. special examination
särskolan. compulsory school for mentally handicapped
särvux. adult education for mentally handicapped
schema. timetable/schedule
scen och medier. performing arts and media
sekundärskola. grades 7-9
sektion. section, division
självstudier. self-instruction/learning
självständighet. independence/autonomy
sjöingenjör. marine engineer
sjökapten. master mariner
sjukdom. illness, disease
sjukgymnast. physical therapist
sjuksköterskeskola. school of nursing
skadad. impaired
skådespelare. actor
skeppsbyggnad. shipbuilding
skicklighet. skill
skogsmästar/tekniker. forestry management/ technician
skola. school
skolår. school year
skolgång. schooling, attendance
skolväsendet. general education system
Skolverket. National Agency for Education
slutbetyg. school leaving certificate
slutbetänkande. final report
småskollärarexamen. former final examination for primary teacher training program
småskola. primary, grades 1-2 from 1962 to 1971
småskolseminarium. former teacher training schools for primary grades
Socialstyrelsen. National Board of Health and Welfare
socionom. social worker
social omsorg. social welfare/service
sökande. applicant
spanska. Spanish
specialarbete. special project
specialpedagoglinje. special education program
språk. language
standard prov. national achievement test in compulsory school
statens skolor för vuxna/SSV. national school for adults
Statens Skolverk. National Agency for Education
storhushåll. catering
studentexamen. leaving certificate for upper secondary until 1968 that qualified the student for university entrance
studieavbrott. interruption of studies
studiecirklar. study circle
studiekurs. study courses
studieledighet. educational leave of absence
studieomdöme. progress report
studiemedel. loan or study loan
Studiemedelsnämnder. district student aid office
studie- och yrkesorienterings/SYO. career and guidance counseling
studieplan. syllabus
studiepoäng. credit points
studierektor. director of studies
styrmanslinje. nautical science
summa ob. timmar. total number of required hours
Svenska. Swedish

T

tandhygienist. dental hygienist
tandläkare. dentist
tandsköterska. dental nurse
tandvård. dental care
teckning. drawing
teknikerexamen. former technical/vocational degree

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teknisk fackskola. former technical vocational secondary school

teknisk gymnasium. former technical upper secondary school

teknisk högskola. former institute of technology

temastudier. thematic studies

tentamen. formal test at university/college, examination

tentamensbok. grade book

termin. term/semester

terminsbetyg. term report

tillgodoräkna. credit, transfer credit

tillvalsämne. optional subject

timlärare. part-time teacher

timplan. time schedule/table

tjänsteman. official

trädgårdsteknikslinje. park and market garden management program

trä. wood

träningsskola. training school

tryckmedier. graphic media

tvåspråkig. bilingual

tvärvetenskaplig. interdisciplinary

Tyska. German

U

underkänd. fail

undersökning. survey

undervisning. teaching

ungdom. youth

universitet. university

Universitets- och Högskoleämbetet. National Board of Universities and Colleges

universitetsnivå. university level

uppföljning. follow-up

utbildningsbevis. certification of completion, certificate

Utbildningsdepartmentet. Ministry of Education and Science

utbildningslinje. study program

utbytesprogram. exchange program

utfall. outcome/result

utfärda examina. award, degree

utjämningsbidrag. compensatory transfer grant

utlandsk studerande. foreign student

utlandsskola. school abroad, Swedish school abroad

utlåtande. statement/opinion/report

utökad studiekurs. extra subjects or courses

utskrivningsbetyg. former teacher leaving certificate for noncompletion

V

väg- och vattenbyggnads. civil engineering

väl godkänd. pass with distinction

valfri. optional

vår. spring

vård. health occupations

värdering. assessment

vårdlärare. nursing education teacher

veckotimmar. hours per week

Verket för Högskoleservice/VHS. National Agency for Higher Education

verkstad. workshop

verkstadsteknisk. production technology/workshop

verkstadskolor. former vocational schools offering practical courses for different occupations and trades

vetenskap. science

veterinär. veterinary

vidareutbildning. further/supplementary training/education

viktning av betyg. weighing of marks/grades

vuxenutbildning. adult education

Y

yrkes. professional/vocational

yrkeskvalifikation. professional qualification

yrkeslegitimation. certification

yrkesskola. vocational school, incorporated into upper secondary school in 1971

yrkesteknisk högskoleutbildning. vocational education program

yrkesutbildning. vocational programs

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